A demonstration of a token economy for the real world

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Abstract
Token economies are rarely used in real-world psychiatric settings because of barriers to their implementation, such as institutional constraints and insufficient collegial support. The line-level treatment team at Elgin Mental Health Center was able to overcome these constraints and develop a user-friendly token economy. This article describes Elgin’s simple yet effective token economy and the process used to develop it.

Key words: Staff training, Token economy, State psychiatric hospital

When used in conjunction with skills training and shaping procedures, the token economy has been shown to diminish some psychiatric symptoms and enhance the repertoire of adaptive responses of severely mentally ill patients (Kazdin & Bootzin, 1972; Paul & Lentz, 1977). Research indicates that token contingencies increase the frequency of self-care skills (e.g., hygiene, self-feeding, clothes maintenance) and interpersonal behaviors necessary for functioning effectively within the community (Glynn & Mueser, 1986; Paul & Lentz, 1977). The utility of token economies in inpatient psychiatric settings is clearly demonstrated by Paul and Lentz’s (1977) landmark study comparing two comprehensive psychosocial programs (i.e., social learning and milieu therapy) and traditional hospital care in the treatment of chronic psychiatric inpatients. The social learning program utilized a highly specific token economy, whereby patients received rewards or incentives for performing a variety of adaptive behaviors on the ward (e.g., social interaction or self-care activities). Patients in the milieu therapy condition were assigned to living groups that promoted prosocial behaviors by generating group cohesiveness, communicating attainable expectations, and stimulating patient involvement. Despite improvements in all three conditions, the social learning program was consistently more effective than the comparison groups on a number of measures including frequency of patient discharge, medication reduction, improvement in ward behavior, and status in the community following hospital discharge.

Decline in Token Economies
Despite its effectiveness, the token economy is rarely used in real-world psychiatric settings. Use of the token economy in mental health programs has steadily declined since the early 1970s (Glynn, 1990). For example, 27 token economies were reported to be operating in 20 Veterans Administration Medical Centers in 1969 (Stenger & Peck, 1970); this number decreased by half in 1983 (Boudewyns, Fry, & Nightengale, 1986). There are several reasons for this decrement. The token economy may not be readily exported to real-world settings because of the number of highly trained staff required to implement a Paul-and-Lentz program. For example, several college educated, behavioral observers were needed to collect time sample data that supported the Paul-and-Lentz program evaluation. Surveys have shown that inpatient staff members believe few trained clinicians have free time for such a demanding program (Corrigan, Kwartarini, & Praman, 1992). Moreover, token economies à la Paul and Lentz require highly trained staff to consistently apply behavioral interventions to shape appropriate behaviors. Unfortunately, nurses in psychiatric institutions are trained primarily in medication management and find the principles of token economies to be foreign to their professional roles (Repucci & Saunter, 1974). Finally, some staff
view token economies as punitive or inhumane; they worry that this technology will undermine the patient–clinician relationship as well as the quality of care.

Line-level staff at Elgin Mental Health Center (EMHC) had experienced similar frustrations in managing a token economy in their Extended Therapy Units. EMHC is a state-operated hospital serving severely mentally ill adults who live in Northeastern Illinois, including parts of the Chicago metropolitan area. Ironically, Elgin inpatient units have a long and esteemed history of using the token economy as documented in the Elgin Journals. Unfortunately, the intervention fell into disuse because of the various staff and organizational barriers that plague use of the token economy elsewhere. To rectify this problem, Elgin administrators contracted with faculty and staff at the University of Chicago Center for Psychiatric Rehabilitation to overcome these barriers and set up a token economy program with line-level personnel (i.e., the nurses, technicians, activity therapists, social workers, psychologists, and psychiatrists charged with the day-to-day care of inpatients). Because this agenda was initiated by Elgin administrators, many of the administrative barriers to developing effective and user-friendly economies were obviated.

One way in which University of Chicago faculty considered fostering program development at Elgin was educating staff regarding the fundamentals of operant psychology and the token economy. Research has shown that staff trainees participating in education programs are able to competently learn and subsequently use behavioral rehabilitation skills with their patients (Eckman, Liberman, Phipps, & Blair, 1990). Staff training programs have their limitations, however; innovative programs frequently diminish soon after the outside consultant leaves because line-level staff are drawn back to status quo duties (Backer, Liberman, & Kuehnel, 1986). Interactive staff training was developed by University of Chicago faculty to overcome barriers to maintenance of unit-wide behavioral programs (Corrigan et al., in press).

The first step of interactive staff training involves the assessment of staff regarding their perceptions of programmatic needs. This assures that behavioral innovations introduced to the therapeutic milieu are relevant to the treatment concerns of the staff responsible for carrying out the program. The next step of interactive staff training is identification of a subgroup of line-level staff who will assume responsibility for developing a program that meets staff programmatic concerns. During the third step, the program committee engages in participative decision making to forge a draft of a unit-wide program. Aspects of program development are presented as decisions that clinicians must resolve consensually to help staff members design a behavioral treatment plan to meet the unit’s specific needs. The program committee then pilots this program draft on a subgroup of inpatients.

In terms of establishing the basics of the token economy, the program committee needs to address several questions: What patient behaviors did the staff want to target? What consequences did they wish to specify for each target? Behaviors and contingencies were formalized into token cards which became mini-incentive plans specific to each patient and utilized on a daily basis. The program committee also had to make user-friendly decisions regarding exchange rules for the commissary. When would the store be open? What back-up reinforcers would be available? How much would these reinforcers cost? Who would run the token store?

Decisions about program development also included assigning responsibilities among staff members. Who among the different disciplines would be responsible for organizing and disseminating token cards? Who would run the token store? Who would stock it? Finally, who would be responsible overall for supervising peers in conducting the program?

To address these questions in an interactive fashion, the University of Chicago consultants met monthly over a period of six months with the program committee. Regular meetings with representatives of all levels of staff are an integral element of interactive training, allowing for two key features of such an approach. First, line-level staff were able to directly present consultants their concerns and recommendations regarding the design of the economy. Recommendations were often directly integrated into the economy’s design at the meeting, and concerns were directly addressed in open dialogue. Secondly, line-level staff diminished their general skepticism about cumbersome procedures being imposed from “on high.” For example, line-level staff were initially hesitant over the amount of work required for the economy. Staff at all levels discussed this concern at one of the monthly meetings. This discussion led to the decision not to allow patients to carry their token points over from one day to the next, leaving less clerical and accounting work for staff.

Token Cards

A foundation of the token economy is the daily token card. Token cards are preferred to tangible tokens such as poker chips because patients may easily steal or barter poker chips (Kazdin & Bootzin, 1972). Patients carry their token cards so they are regularly reminded of the target behaviors expected of them. An example of the token card designed by Elgin staff is reproduced in Figure 1. Target behaviors are listed under “Responsibilities” on the front of the card. The card also lists the number of points each target behavior is worth.

To record the points earned for target behaviors, staff members keep a running balance of the points listed under “Responsibilities.” For example, if a patient puts on clean shoes, socks, and underwear in the morning, he earns three points. The technician thus enters three points on the “Shoes/socks/underwear” line, under both the Plus Column (“+”) and the Total Column. If the patient has also groomed
### Real-World Token Economies

#### Fig. 1. Daily token card for level one.

<table>
<thead>
<tr>
<th>Responsibilities</th>
<th>+</th>
<th>Total</th>
<th>Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shoes/socks/underwear</td>
<td>(3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teeth/hair/wash face</td>
<td>(3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training program</td>
<td>(5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exercise</td>
<td>(5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group</td>
<td>(5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Handwashing</td>
<td>(2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relaxation</td>
<td>(5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OTHER:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**DAY: TOTAL (-) CONSEQUENCES**

<table>
<thead>
<tr>
<th></th>
<th>(=)</th>
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<tbody>
<tr>
<td><strong>TOKENS SPENT</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>BALANCE, CARRIED TO PM</strong></td>
<td>(=)</td>
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| Evening Activity   | (5) |       |       |
| Handwashing        | (2) |       |       |
| Showers            | (5) |       |       |
| OTHER:             |     |       |       |

**EVE: TOTAL (-) CONSEQUENCES**

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<tr>
<th></th>
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<tr>
<td><strong>Total</strong></td>
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herself, the technician enters three points under the Plus Column for Teeth/Hands/Wash face. Points are awarded as soon as they are earned to facilitate rapid learning. The number of grooming behaviors is limited to only a few standardized behaviors to place less burden on line-level staff.

The back of the token card originally contained a list of inappropriate behaviors (e.g., yelling, smoking in out-of-bounds places) for which patients received fines (response costs) immediately after doing them. However, the program committee observed during the pilot that taking points away from patients increased their level of hostility; no one likes being punished. Therefore, unit-wide response costs applicable to all patients were suspended. Staff members are currently experimenting with limited response costs for patients who lack a history of aggression and who show particularly stubborn behaviors.

The staff's decision to omit response costs from their token economy is an example of the dynamic quality of good token economies. When staff members determine that some component of the token economy is not yielding appropriate change in patient behaviors, that component is revised. Continuing amendments to the token economy to meet the ever-evolving characteristics of patients and staff is an essential part of a vital token economy. Such amendments, based on line-level feedback, also preserve the spirit of interactive training, under which the economy was originally designed.

Each patient's token card has two blank lines marked "Other." These lines target patients' idiosyncratic problem behaviors that are not included in the standard lists of targets, thereby helping staff to focus on individual patients' specific needs. For example, a certain patient may have poor eating skills that need to be targeted. "Other" behaviors are identified by each patient's case manager and contingencies are defined by the team as a whole at monthly staffings. "Eats Properly" may thus be listed on the patient’s "Other" line, along with the number of points for satisfactorily exhibiting the target. If the technician notes subsequently at mealtime that the patient has eaten her meal with good manners, he awards her the allotted points. Behaviors for the "Other" line are usually chosen by line-level staff, again preserving the spirit of interactive training.

The aggressive patient is one of the most practical and pressing concerns of all staff members in "real world" state hospitals. The "Other" lines, therefore, may also serve the important function of targeting idiosyncratic prevalent behaviors of aggressive patients. Clinical investigators have suggested that decreasing the frequency of prevalent behaviors in turn decreases overall unit aggressivity (Corrigan, Yudofsky, & Silver, 1993). Examples of prevalent behavior include swearing, raising one's voice, or standing too close to someone (Kalogitera et al., 1989). For example, staff notices that a particular patient tends to begin swearing before striking someone. Staff might fine the patient tokens when he is noticed using foul language in the future. Alternatively, staff might affect this behavior by awarding him a certain number of points for talking the problem out with a staff person instead of swearing. This strategy, known as Differential Reinforcement of Incompatible Behaviors.
(DRI), is very effective in practice, especially if a high number of points is awarded such that the patient is well motivated to perform the alternative behavior.

On most busy inpatient units, line-level staff are rarely able to remember every aspect of patients' treatment plans. With the standard behaviors and the "Other" line, the token cards and sheets serve as convenient minisummaries of the patients' treatment plans. Thus, the token cards regularly remind staff of the groups patients are expected to attend and of the particular problems each patient needs to address.

The Token Store and Back-Up Reinforcers

Points on the credit card are turned in at the token store where back-up reinforcers may be purchased. Prices are determined by the cost of each commodity and its desirability to patients. Price adjustments are periodically made by the program committee in accordance with demands made by the real-world market. For example, soda originally cost 25 points, but its popularity and reduced availability drove the price to 30 points. One must compromise between the price of goods and the number of points awarded for target behaviors. Awarding more points for target behaviors increases patient responsiveness but rapidly decreases the store's supply of goods.

To decrease staff burden and financial cost, the token store is open only twice each day—once on the day shift from 3:00 to 3:30 p.m. and once on the evening shift from 7:30 to 8:00 p.m. Patients are instructed to line up a few minutes before the store opens. One or two psychiatric technicians open the store and each patient indicates the goods he or she wishes to buy. The store operator then subtracts the appropriate number of points from each patient's total (see Figure 1) and enters the patient's new balance in the row marked "Balance, Carried to PM." During the evening shift, the store operator collects the patient's token cards. Tokens do not carry over to the next day because line-level staff voiced concerns about the amount of clerical work involved in such activity.

Goods for the store are kept in a special room set up especially for that purpose. Funding for token economies is not as readily available as it used to be. Funding for the purchase of Elgin goods comes from the State of Illinois' Living Skills Program, which supplies 3 dollars per patient per week.

The Level System

The Elgin program divides patients into four levels. The level system makes the economy easier to implement because it specifies changes in contingencies and target behaviors as the patient progresses up and out of the hospital. Higher levels require more complex target behaviors (e.g., do laundry with assistance) and carry more prestigious responsibilities (e.g., help peers as needed). They also enjoy more desirable privileges (e.g., ordering out weekly for food). The economy is perceived as fair by the patients because the level system clearly indicates how decisions about unit privileges and responsibilities are made. This perception of fairness makes things easier for line-level staff, as patients spend less time complaining to them. The level system also motivates patients to behave more appropriately because it outlines specific criteria for obtaining more privileges.

All patients entering the program are assigned a level at the initial staffing. They are then informed of the behaviors expected at that level as well as the criteria for advancement. Patients who perform successfully at their level for 30 consecutive days are advanced to the next level at the monthly staffing meeting. Token cards are color coded to correspond with each level.

The responsibilities for each level are posted throughout the unit, and staff display a bar graph of all patients' status vis-à-vis the levels. In this way, staff do not have to constantly take the time to remind patients of their responsibilities. Responsibilities for Level One are quite concrete, including behaviors such as "Makes bed with supervision" and "Wears shoes, socks, and underwear." Some of the responsibilities on the next level are kept the same (such as "Take showers"), but others are more advanced ("Participate in Activities"). Responsibilities at Levels Three and Four also include some behaviors from previous levels ("Go to meals on time") as well as more advanced activities, such as "Do laundry with assistance" and "Help peers as needed."

The level system uniformly determines the privileges accorded to patients. At Level One, for example, patients are only allowed token store trips and extra staff time. Privileges expand at Level Two to include highly sought after activities such as trips outside the unit. At Level Three, supervised off-grounds passes are introduced, while at Level Four, patients can order out food and gain additional pass time.

Staff Responsibilities

Staff responsibilities were decided by the program committee with feedback and discussion by all levels of staff. Each morning the case managers review with the patient his or her token card, emphasizing behaviors listed on the "Other" line. The entire treatment team is then responsible for awarding points for different activities throughout the day. For example, group leaders award points for attending group, while psychiatric technicians award points for completing hygiene and grooming behaviors. Case managers and technicians jointly manage the "Other" behaviors, because the number of individualized contingencies that case workers must track can become unmanageable. Pairing a case worker with a technician also increases the level of participation of technicians in the token economy. This divi-
sion of labor helps make the economy more convenient and efficient to implement. All clinical staff meet weekly to identify and remedy difficulties in the economy.

As Glynn (1990) pointed out, the increased level of supervision required for a token economy can be viewed by staff as intrusive. Therefore, maintaining staff support for a token economy is vital. Of course, small difficulties with the economy will arise from time to time (e.g., staff members may award points inconsistently). Small hassles such as these may impede the progress of the economy once it has been implemented and outside innovators have left.

Certain steps help ensure that the token economy continues to function smoothly. Some members among the staff are natural leaders with treatment initiative; they are likely to assume responsibility for programs such as a token economy and champion the cause after outside innovators have retreated. A “champion” is an energetic and optimistic individual who frequently assumes leadership roles and shows great interest in learning innovative technologies (Corrigan, in press; Corrigan, Holmes, & Luchins, in press). Champions are responsible for spearheading the token economy, such as establishing criteria for the economy, inspiring staff peers to participate, and collecting and responding to complaints from patients and staff. Responding interactively to the evolving needs of the economy places it in the real world and thus preserves its inertia. The successful experience of the Elgin champions reflects the literature on the subject, which suggests that the longevity and fidelity of the “championed” innovation is significantly greater than the “nonchampioned” approach (Corrigan, MacKain, & Liberman, 1994).

Program Evaluation

Despite its simplicity and flexibility, Elgin’s token economy requires continual program evaluation. There are two forms of quality assurance relevant to the evaluation of token economies: summative and formative (Scriven, 1967). Formative evaluation produces continual feedback during the development and implementation of a program. Summative evaluation assesses the outcome or product of a program. In the case of a token economy, summative evaluation attempts to ascertain the overall effects of intervention on patient behavior. Formative evaluation of a token economy serves a twofold purpose: it determines (a) what components of treatment lead to patient improvement and (b) whether these components are carried out consistently.

For the summative evaluation, Elgin staff keep a daily record of the number of restraints and incident reports for each patient. Staff refer to these records at monthly meetings to track the effectiveness of the economy, and, where needed, make adjustments. Staff also use the Clinical Global Impressions (CGI), which assesses patients on several levels of functioning, including severity of illness, global improvement, psychopathology, social interaction, healthcare, and activities of daily living. Patients are evaluated with the CGI at a monthly team meeting, and the data are used to track their improvement in functioning.

Formative measures largely reflect the staff members’ adherence to the rules of the token economy. For example, peers review each other on a preassigned basis every 2 weeks. Findings from the peer review are submitted to clinical supervisors who review problems with performance and include the evaluation in the employee’s annual review. This simple form of peer review works well and does not involve the complex staff training and evaluation described in Paul and Lentz (1977).

SUMMARY

The Elgin staff’s satisfaction with their token economy is consistent with Gripp and Magaro’s (1971) findings that staff working with schizophrenic patients in a state hospital viewed a token economy to be a more satisfactory work atmosphere than the regular ward. The token economy provides an opportunity for a dialogue between patients and staff, giving them concrete behaviors to discuss and review. Staff develop a greater awareness of how patients are doing, while patients learn more completely what is expected from staff. The unit as a whole experiences a higher accountability and consistency that motivates patients with more than threats and cajoling.

This high level of satisfaction with the economy stems from its ease of implementation and its fit with the realistic needs of the unit. This fit was originally assured by the interactive approach of its design through frank consultation with staff about their needs and opinions. Now that the program is running, champions continually respond to staff and patient feedback, thereby maintaining a vital economy that is essential to the treatment milieu. For example, line-level staff originally vetoed the notion of patients carrying their token points over from one day to the next; they felt this would involve too great a clerical burden. Several months later, line-level staff realized that patients needed to work toward larger goals over longer periods of time. Thus, patients at higher levels can now bank tokens for day trips.

REFERENCES


