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# Turning Over Turnover: The Evaluation of a Staff Scheduling System in a Community-Based Program for Adults with Developmental Disabilities

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**ABSTRACT.** Human service programs often have major problems ensuring that all direct-care staff positions are filled and keeping staff members after they are hired. Work schedules may have an effect on maintaining the longevity of staff. The purpose of this study was to evaluate the effects of a revised direct-care staff-scheduling system in community homes serving adults with developmental disabilities. The revised direct-care staffing system, which used shift-style schedules, was compared on a variety of measures to existing staffing systems and to a staffing model using married couples and adaptations of the Teaching-Family Model (called Family-Teaching homes). The revised staff-scheduling system was evaluated before and after its implementation and then com-

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pared to the Family-Teaching homes using direct-care employee measures of: (1) turnover; (2) position vacancies; (3) number of different employees paid within a pay period; (4) average hourly wages; (5) number of hours worked; (6) average cost for employees per person served; and (7) employee satisfaction. The various staffing approaches were also compared on measures of parent/legal guardian satisfaction and overall program quality. The revised staff-scheduling system was superior when compared to the previous staff-scheduling system on measures of turnover (43% less), vacancies (57% fewer), number of direct-care employees involved in the care of the persons served (13% fewer), and hourly wages (8% more). All of this was achieved without affecting staff-to-client ratios. While these changes were positive, the Family-Teaching homes were associated with significantly better direct-care staff stability and lower costs. *[Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: <docdelivery@haworthpress.com> Website: <http://www.HaworthPress.com> © 2003 by The Haworth Press, Inc. All rights reserved.]*

**KEYWORDS.** Turnover, staff management, human services, work schedules, organizational behavior management

## *INTRODUCTION*

In 1967, over 195,000 people with developmental disabilities resided in public institutions, while only 47,374 resided within institutions in 2000 (Braddock, Hemp, Rizzolo, Parish, & Pomeranz, 2002; Braddock, Hemp, Fujuiira, Bachelder, & Mitchell, 1990). As a result, public institutions are operating at only a fraction of their original capacity, and Braddock et al. (2002) identified 125 planned closures in 2000 in 37 states.

To accommodate institutional census reductions and closures across the last three decades, community service providers grew rapidly, and are increasingly serving persons with severe needs who previously resided (or would have resided) within public institutions with far less funding than was available for institutional care. While meeting these challenges, community programs have also been shaped by limited funding, regulatory reform, and their own desire to implement best practices to provide services in increasingly smaller community settings, to provide more and better opportunities for employment, and to offer considerably more choices and control to persons served and their families.

Rapid expansion, limited funding, and ever-evolving community service models have pulled at the seams of the community service system nationally, directly impacting the stability and quality of community services. The most concerning problem reported by providers of community service is the instability of the direct-care workforce. For example, the annual turnover rate of caregivers working within public institutions averaged about 24% (Braddock & Mitchell, 1992). On the other hand, the turnover of direct-care employees of community programs averaged about 70% nationally, almost 300% higher than public institutions (Braddock & Mitchell, 1992; Larson & Lakin, 1992). Pay is the most consistently reported factor related to this large difference in rates of turnover, according to correlational and regression-analysis research. Braddock and Mitchell (1992) report that pay for direct-care staff within institutions was much higher (e.g., \$8.72) than pay for community caregivers (e.g., \$5.97). Other factors may also contribute to high rates of turnover. In their reviews, Braddock and Mitchell (1992) and Larson and Lakin (1992), agree that higher turnover is also reliably associated with low staff-to-client ratios, shorter tenures of supervisors in the home, less tenured staff, homes that have been open for shorter periods of time, use of younger direct care workers, homes serving fewer people, providing support for people with few adaptive skills, and homes located in urban areas and in areas with low unemployment.

More current research by Larson and Lakin (1999), however, indicates that there may be variations over time in the variables that are correlated with higher turnover. In this study, correlations were obtained at two separate times within the same general set of about 110 community small group homes in Minnesota. Four out of twelve variables were significantly correlated with turnover in 1993, whereas only two variables out of the twelve were significantly correlated with turnover in 1996. Interestingly, only one variable, shorter tenure of supervisors in the homes, was correlated with higher turnover across both time periods.

Most of what we know about the stability or instability of community direct-care workers is from descriptive or correlational research (Ito, Kurita, & Shiiya, 1999; Larson, Hewitt, & Anderson, 1999; Mitchell & Hastings, 2001; Razza, 1993). There is almost no experimental research evaluating direct interventions to improve turnover for direct-care workers supporting people with disabilities in the community. The present study systematically evaluated one such intervention, a revision of an existing conventional staffing schedule in shift-style homes. The revision was an attempt to reduce the number of people involved in care, and to maximize pay without decreasing staff-to-client ratios or

overall payroll cost. We compared measures of staff stability, pay, employee and parent/guardian satisfaction, and program quality prior to the work schedule revision and afterward. We also compared these measures to identical ones achieved by married couples who provided live-in support in homes using adaptations of the Teaching-Family Model (Fixsen, Phillips, & Wolf, 1978).

## METHOD

### *Research Setting and Participants*

The research took place within a not-for profit community organization, Community Living Opportunities (CLO). CLO served approximately 250 children and adults with developmental disabilities in Johnson and Douglas Counties in Kansas and provided teaching and support for the people it served in community, home, and work settings. Most of the adults served by CLO previously lived in state institutions and many had multiple, severe disabilities. CLO had approximately 525 employees, the majority of whom provided direct-care by teaching and supporting people with developmental disabilities to participate in the activities needed to live more independent and satisfying lives.

CLO provided three different types of homes for the adults it served: individualized living homes, group homes, and homes using adaptations of the Teaching-Family Model (called within CLO "Family-Teaching" homes). There were eleven individualized living homes, five group homes, and nine Family-Teaching homes included in the study. Each individualized living home served three (and occasionally two) adults with developmental disabilities in small homes, town homes, or apartments. Each group home served six to eight adults with developmental disabilities. The homes were located in what was otherwise single family neighborhoods. The Family-Teaching homes were closely modeled after the Teaching-Family Model program developed by Wolf and his colleagues (Fixsen et al., 1978), and adapted to meet the unique needs of persons with developmental disabilities (Sherman, Sheldon, Morris, Strouse, & Reese, 1984). Each Family-Teaching home served two or three adults with developmental disabilities and had a married couple who lived in the home (in attached, private living quarters) and who provided teaching and support to the adults. Additional teachers worked under the supervision of the couple and provided relief. Typically, the entire staff of a Family-Teaching home consisted of the cou-

ple and two to three “relief” teachers who worked each weekday and on weekends. There were nine Family-Teaching homes included in the study.

The participants in this study were all direct-care staff members employed from July 1, 1997 to April 30, 1999 in all of the three types of homes described above scattered across two counties. This included approximately 250 direct-care employees varying ages from 21 to 60 years old. All direct-care employees were high school graduates, approximately 45% were either attending college or were college graduates, and 77% were female.

### **Procedures**

*The Existing Staffing Schedule.* The existing staffing schedule for the full-time teachers was loosely based on an eight-hour work schedule per day. Some teachers were scheduled, for example, to work from 7:00 a.m. to 3:00 p.m. five days a week, and others were scheduled to work from 3:00 p.m. to 11:00 p.m. five days a week. In addition, night schedules usually were from 10:00 p.m. to 7:00 a.m. or 11:00 p.m. to 7:00 a.m. When the needs of the persons supported required it, additional teachers were scheduled. Many of these additional teachers were part-time. Additionally, since the manager of each home made decisions about hiring teachers (after they had been through initial screening interviews and background investigations) and since the managers of the homes were free to make minor modifications to work schedules (e.g., start/end times and days on and off duty), the actual direct-care staffing schedules for both full and part-time teachers varied to some degree from home to home.

*Analysis of Existing Staffing Schedule.* As background for the current research, CLO had collected descriptive data on turnover and longevity of its employees by position and by home for both full-time and part-time staff for several years prior to this study. CLO had also conducted several employee satisfaction evaluations and a number of parent/guardian satisfaction evaluations. Further, numerous focus group meetings were held with a cross section of employees to gain insight on teacher stability and instability. Finally, a few years prior to the study CLO had implemented an automated time and attendance system that allowed detailed monitoring of work employee times by scanning each person’s employment card. A great deal of helpful information was revealed by collectively examining these data. First, part-time positions had substantially greater turnover than full-time positions (over 250%

higher turnover in some years). Second, a substantial amount of money was spent on training employees who stayed only a few months, or did not regularly work, or who worked only a few hours each week. Third, staff members who had any position (part-time or full-time) that required them to work regularly on Saturday and Sunday had substantially higher turnover rates and, when these positions became vacant, they stayed vacant for longer periods of time than did other types of positions. Fourth, since the managers of the homes were free to make some modifications to the staffing schedule for their home, the actual direct-care staffing schedules for each home for both full-time and part-time teachers varied considerably from home to home. It was unclear whether these variations were driven by the needs of persons served or by the desires of the teachers.

*The Revised Staffing Schedule.* The primary intervention was the development and implementation of a revised, standardized, home staff-scheduling system. The revised staff-scheduling system was designed to try to maximize the stability of staff and minimize the number of people involved in providing care, while assuring that staffing ratios were maintained at the same level. A further goal of the new schedule was to decrease to a minimum the number of part-time staff required to provide care in favor of full-time staff; thereby potentially reducing the overall rates of staff turnover as well as reducing the number of different people interacting with the persons served on a daily basis. Another critical goal of the intervention was to keep the staffing patterns as similar as possible across all settings (so that a substitute staff pool could be developed to fill vacancies across homes) and attempt to equalize the desirability of each schedule (to improve the likelihood that vacant positions could be filled). A final goal was to increase the hourly wage scale without incurring additional, overall payroll costs.

The revised staff schedule utilized twelve-hour work days across three to three and one-half days per week. Teachers were generally grouped into one of two work group teams. One team worked Sunday through Wednesday (the team that worked the “front half” of the week), and the other team worked together Wednesday through Saturday (the “back half” of the week). Scheduled work weeks ranged from 36 to 40 hours per position. Both groups (front and back half teams) had three-to-four scheduled days off a week, one of which was either Saturday or Sunday (but never both). Almost no part-time positions existed. Finally, as part of the revised schedule, the wage scale was increased \$.50 per hour for “front” half teachers, while the wage scale was increased \$1 per hour for teachers working the “back” half of the week. The differential was an at-



tempt to equate work schedules in terms of their perceived desirability, based upon the examination of past vacancies.

### ***Dependent Measures***

*Direct-Care Employee Turnover.* Direct-care turnover was calculated by determining the percentage of teachers leaving across a time period, relative to the total number of positions within each home in that time period (e.g., Teachers leaving, divided by positions, times 100).

*Direct-Care Employee Position Vacancies.* A vacancy occurred in a home when a direct-care employee left CLO or transferred to another vacant position out of the home. To calculate the percentage of vacancies, once each week, the number of direct-care vacancies were divided by the number of positions that existed in a home, and then multiplied by 100.

*Number of Different Direct-Care Employees Paid Within a Two-Week Pay Period.* The number of different direct-care employees paid within a two-week pay period was obtained by examining payroll records and counting the total number of different teachers paid in a specific home during a specified pay period. The data used for this analysis were obtained from a sample of automated monthly time and attendance records maintained by the finance department. This sample represented approximately 37% of the total pay period records during baseline conditions and 45% of the records for the after transition conditions.

*Hours Worked and Hourly Wage of Direct-Care Employees.* The number of hours worked per pay period for each direct-care employee in each home and their hourly wages, including overtime hours and costs, were obtained from financial records.

*Teacher Satisfaction Ratings.* Teacher satisfaction ratings were assessed using a questionnaire given to direct-care employees for each home involved in the study. This questionnaire contained 13 questions, covering areas such as wages, work schedule, and overall job satisfaction. Staff members were asked to rate their satisfaction on a six-point scale ranging from “very satisfied” (6) to “very dissatisfied” (1). Questionnaires were generally distributed to employees, when they came to the office to pick-up their paychecks. In some cases, however, questionnaires were taken to homes for teachers to complete. Overall, there were a total of 33 questionnaires completed during the baseline phase, 73 completed after the revised staff-scheduling system was in place, and 79 questionnaires were completed during the follow-up phase of the



study which ranged from 3 months to 6 months, depending on the date the revised staff schedule was implemented in each home.

*Parent/Guardian Satisfaction Ratings.* Parent satisfaction ratings were assessed using a questionnaire given to the parents/guardians of all of the adults with developmental disabilities who lived in each of the homes participating in the study. This questionnaire contained 13 questions assessing parent/guardian satisfaction of the quality of teachers in the home, the overall supervision and management of the living arrangement, the appearance and safety of the living arrangement, and the quality of life for their family member. Parents and guardians were asked to rate their satisfaction on a six-point scale ranging from “very satisfied” (6) to “very dissatisfied” (1). For the baseline condition of the study, a combined total of 104 surveys were mailed to the parents/legal guardians of the individuals served and 43 were returned, a 41% return rate. After the revised staff-scheduling system was fully in place, a total of 104 surveys were mailed to the same parents/legal guardians and 46 were returned, a 44% return rate.

*Program Quality Ratings.* Program quality was assessed utilizing an instrument that was designed to measure the overall program quality of services provided in each home. This assessment was designed to provide a “snapshot” of the general quality of the home, including program quality, residents’ opportunities for choice, effective learning opportunities for residents, relationships between the direct-care employees and residents, the social environment, whether the surroundings were acceptable and safe, and whether the personal and legal rights of residents were observed. This assessment instrument contained 16 questions, with possible responses varying from “very satisfied” (6) to “very dissatisfied” (1). Program quality evaluations were available within each home and filled out by people who visited the home. These included parents and guardians, program administrators, home managers, and consultants to the homes. During the baseline conditions of the study, a total of 27 surveys were completed, and after the revised staff-scheduling system was in place, a total of 48 surveys were completed.

### ***Reliability of Dependent Measures***

Reliability for teacher stability and payroll measures was obtained on a 25% sample of all measures during the baseline and during the revised staff-scheduling conditions. Reliability was calculated by comparing the measures computed by a research assistant for a particular period of

time to the measures determined by a human resources specialist who calculated the same measure for the same time period using the same records. The agreement was 100%.

Teacher satisfaction ratings, parent/legal guardian satisfaction ratings, and program quality ratings were entered into a database to calculate an average for each question over each condition of the study. Reliability measures were obtained by selecting a sample of 25% of the questionnaires (the raw data) for each type of home in both baseline and during the revised staff-scheduling system and having an independent person compare the scores to those that had been entered into the computer database. There was 100% agreement. No test-retest reliability on all satisfaction evaluations were performed as all ratings were provided unsigned to protect the confidentiality of raters. Consequently, results of rating data must be qualified in this respect.

### *Experimental Design*

The research design was a multiple baseline (Baer, Wolf, & Risley, 1968) across two types of programs in two counties (individualized living homes and the group homes in two different counties). The sequence of the experimental conditions for the different living arrangements was as follows: baseline, transition, and complete implementation of the revised staff-scheduling system.

*Baseline.* During the baseline phase, all dependent measures were obtained in each of the group homes and individualized living homes involved in the study prior to establishing a date for the implementation of the revised staff-scheduling system.

*Transition.* The revised scheduling system was implemented within several homes at the same general time period. The transition period was the time between when the date was announced for implementation of the revised staffing schedule in the first home in the group to the time when the revised staffing schedule was fully implemented in the last home in the group.

*Revised Staff-Scheduling System.* The revised staff-scheduling system was considered to be fully in place in a home when all of the teachers were working according to the new schedule.

*Family-Teaching Homes.* The Family-Teaching home measures were examined only during the time period when the revised staff-scheduling system was considered to be fully in place. There was no scheduling intervention employed within the Family-Teaching homes, the goal was simply to compare the best outcomes achieved by the new shift-strategy

to the existing performance of the Family-Teaching homes, which used a live-in staffing approach.

## RESULTS

### *Direct-Care Employee Turnover*

Figure 1 shows the percentage of direct-care employee turnover each month for all homes in which the revised schedule system was implemented across each condition using a multiple baseline design. All home groupings showed increases in staff turnover during the transitions. After the transition period, the individualized living homes in Johnson County and Douglas County had less turnover in the revised staff-schedule condition than during baseline. The group homes in Johnson County showed a slight increase in the percentage of monthly turnover after the revised staff schedule was fully implemented (although the actual number of people leaving per month in baseline and after the intervention was essentially the same as in the baseline period).

### *Direct-Care Employee Vacancies*

Figure 2 shows the percent of direct-care employee vacancies each month in the three groupings of homes, before, during transition, and after the implementation of the revised staff-scheduling system. For all three home groupings, vacancies were less, on the average, after the revised staff schedule had been fully implemented in the homes.

### *Comparison of Measures Before and After the Revised Schedule and to the Family-Teaching Homes*

Figures 3 and 4 shows the averages of all measures collected for all of the homes in the study. For the homes in which the revised staff schedule was implemented (the group homes and the individualized living homes), the average measures for both baseline and after implementation of the revised schedule are shown. For the Family-Teaching homes the average measures are shown for the period of time that corresponds to the “after implementation” phase in the other homes.

Compared to baseline measures, the intervention was associated with 43% percent less average turnover, 57% less vacancies of direct-care employees, a 13% decrease in the total number of different direct-care

FIGURE 1. The Percentage of Direct-Care Employee Turnover During Baseline, Transition, and the Revised Staff-Scheduling System

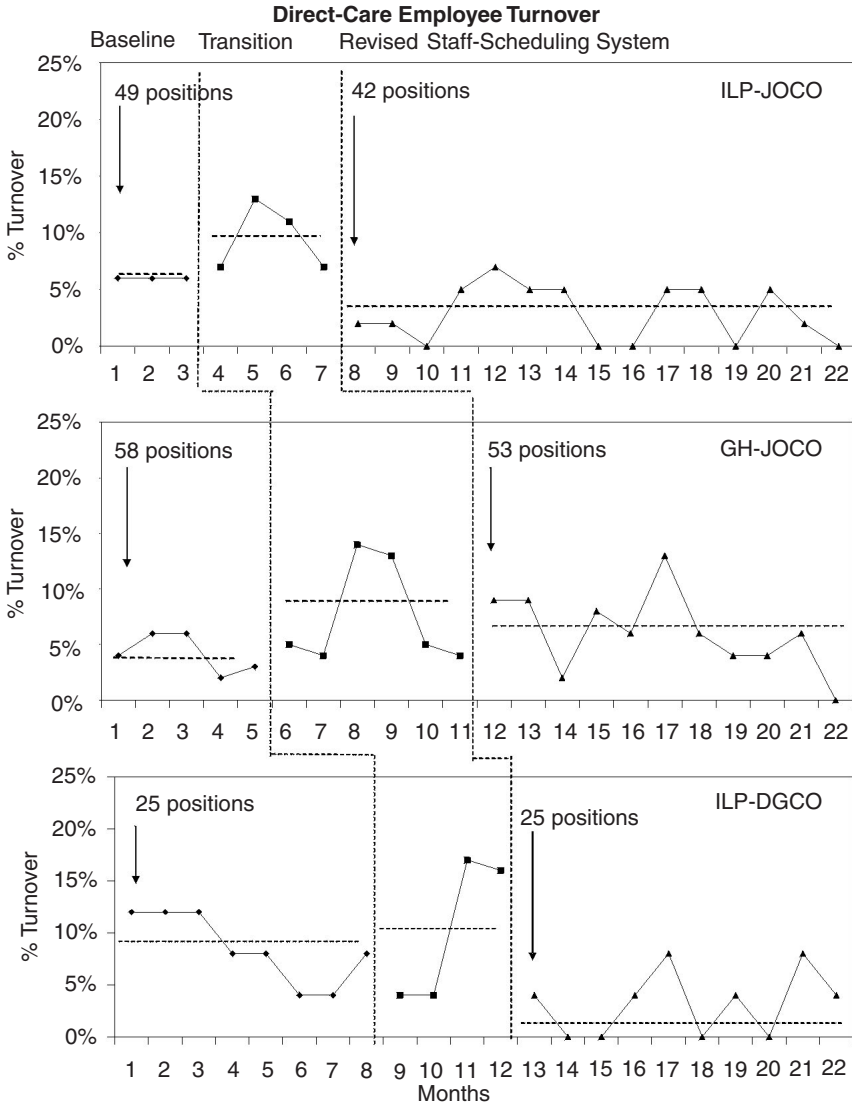


FIGURE 2. Percentage of Direct-Care Employee Positions Vacant During Baseline, Transition, and the Revised Staff-Scheduling System

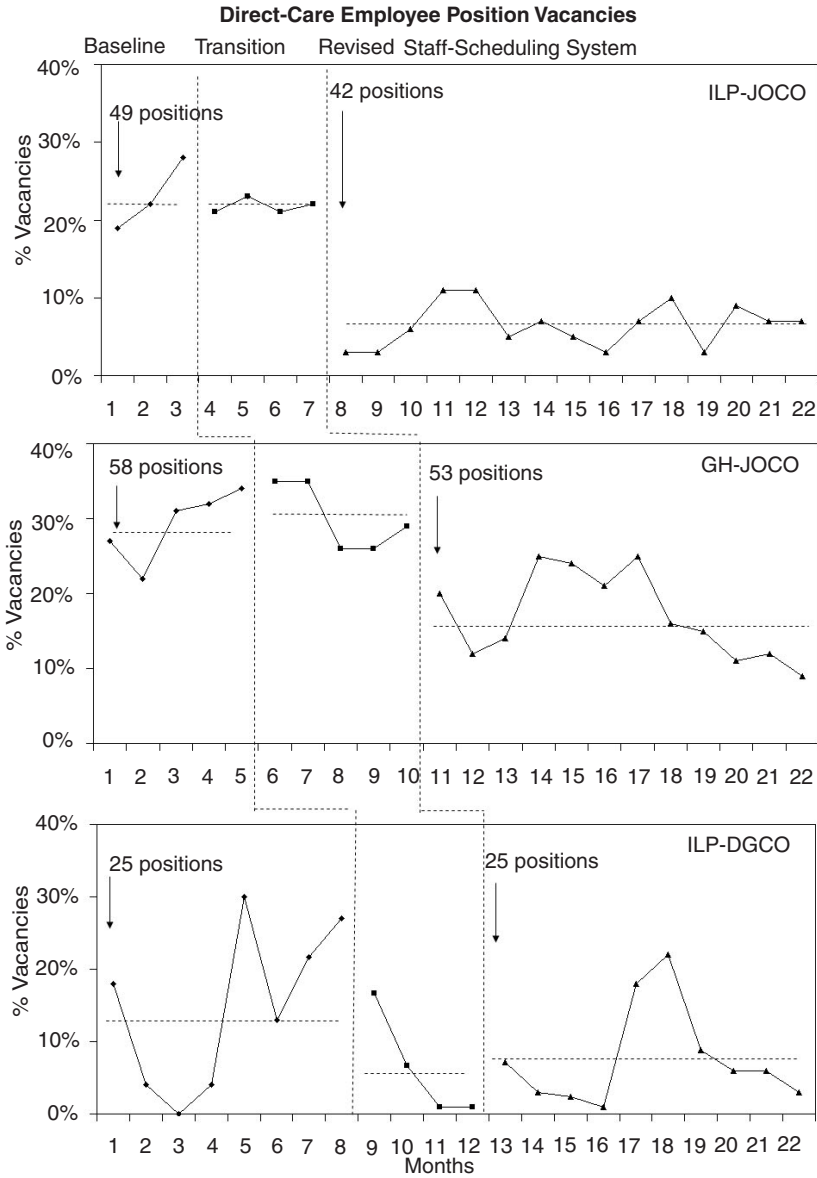


FIGURE 3. For the Baseline Period, the Period After the Revised Staff-Scheduling System Was Implemented, and for the Family-Teaching Model Program: Average Monthly Percentages of Turnover and Position Vacancies for Direct-Care Employees: Average Number of Different Direct-Care Employees Working and Working per Person Served Each Pay Period: and Average Number of Hours Worked by Direct-Care Employees Each Pay Period

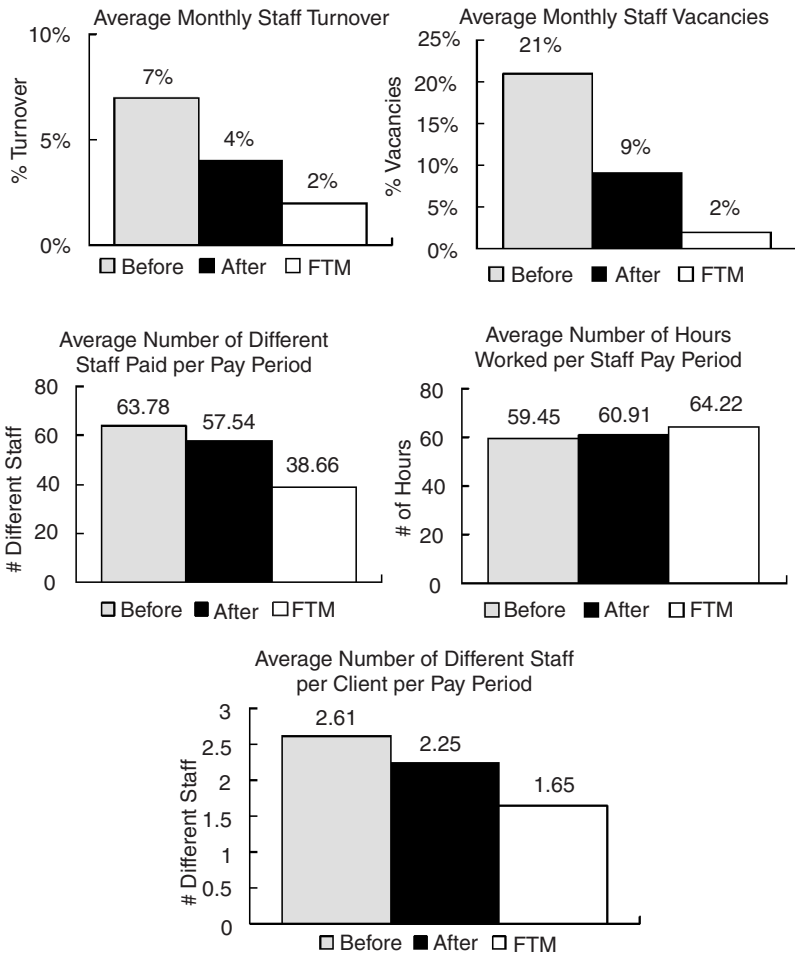
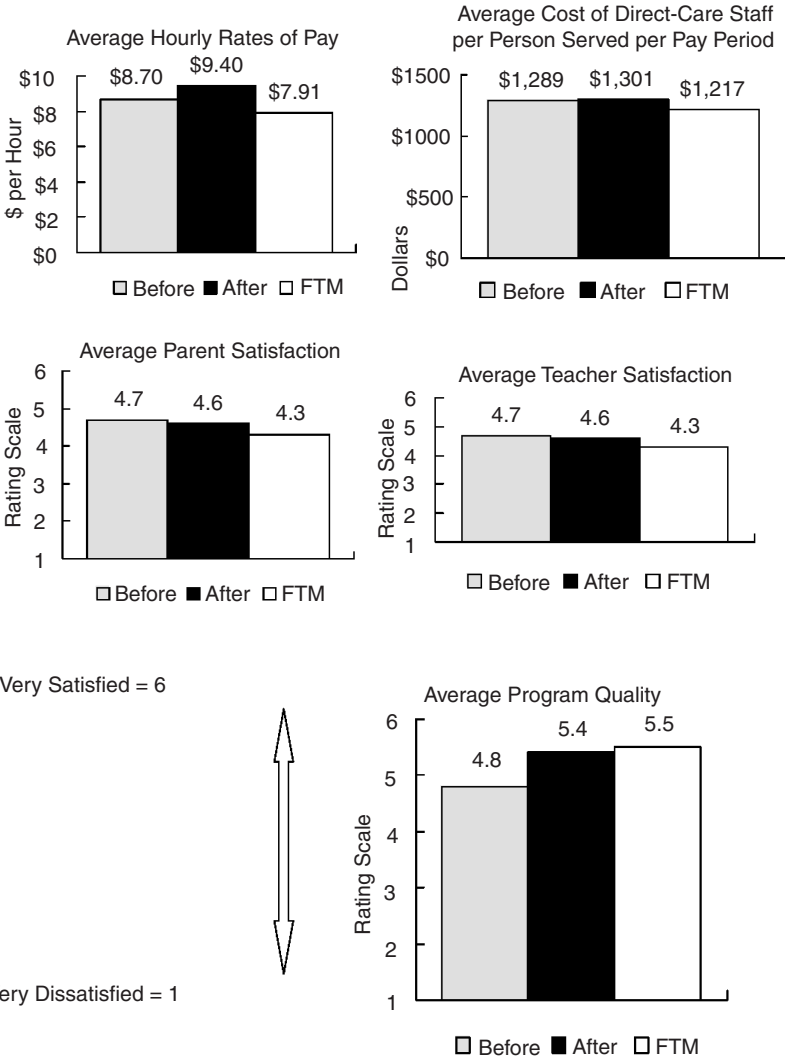


FIGURE 4. For the Baseline Period, the Period After the Revised Staff-Scheduling System Was Implemented, and for the Family-Teaching Model Program: Average Rate of Pay of Direct-Care Employees, Average Cost of Direct Care Employees per Person Served Each Pay Period; and Average Ratings of Satisfaction by Teachers, Parents and Guardians, and Program Quality Evaluators





employees paid during a two-week pay period, a 13% decrease in the average number of different direct-care employees involved in the care of the persons served, and only a 2% increase in the number of hours worked by direct-care employees. Overall, there were 8% higher wages paid to employees working under the revised staff schedule without substantially affecting direct-care staffing costs per person served. Although average ratings of program quality were 13% higher with the revised staff schedule, average satisfaction ratings by teachers and parents of the men and women served were only slightly (2%) different.

The average measures shown in Figure 3 for the Family Teaching homes shows that these homes out-performed the group homes and the individualized living homes even when they used revised staff-scheduling system on most measures. The Family Teaching homes had 50% less turnover, 78% lower staff vacancies, 32% fewer numbers of different direct-care employees involved in the care of persons served, 6% lower costs, and 2% higher program quality ratings. Further, although the average wage paid for teachers in the Family Teaching homes included the cost of housing for the couple, the hourly cost for Family Teaching homes was 17% lower than for teachers working the revised schedule. On the other hand, parent satisfaction ratings and teacher satisfaction ratings were somewhat higher in the revised schedule homes compared to the Family Teaching Homes (8% and 6%, respectively).

## **DISCUSSION**

Providers of community services for people with developmental disabilities are continuously challenged to create the highest quality program they can within the funding they receive. A stable, competent workforce is at the heart of any such program. A major problem faced by all providers of community services for people with disabilities is to recruit, train, and maintain this workforce. The purpose of the present study was to evaluate the effects of a revised staff-scheduling system on the stability of the direct-care workforce and on direct-care staffing costs in one community program. The results of the study showed that the revised staff-scheduling system produced some very desirable outcomes compared to baseline rates: direct-care staff turnover was reduced (43%) as was the number of different staff members involved in the daily care of the persons served (by 13%), and staff vacancies (by 57%). This was accomplished without decreasing the staff-to-client ratios and with only a slight (1%) increase in direct-care staffing costs (an

increase which was far less than the 2% to 3.5% annual increase that had historically occurred across the same time period within this agency).

### ***Why Did the Revised Staff-Scheduling System Work?***

There were a number of important differences between the revised staff-scheduling system and the more traditional eight-hour shift scheduling system that was loosely implemented prior to the intervention. First, the revised system was designed to provide coverage with fewer employees by significantly reducing the use of part-time employees in favor of full-time employees. In the baseline condition there were 132 positions, compared to 120 positions in the revised schedule condition. Second, a reasonably significant increase in the wage scale was provided (\$.50 to \$1.00) without substantially increasing overall payroll cost. Under the baseline conditions, teacher pay averaged \$8.85 per hour while it averaged \$9.59 per hour under the revised staff schedule, an average increase of 8%. Third, the revised system was designed to balance all of the full-time positions so that they were generally equally desirable in terms of work schedules and time off and so vacant positions were as attractive as the ones that were filled. Work schedules were further equalized by having slight pay differentials between the “front half” and “back half” teams. In order to protect this balance, house managers were not authorized to change schedules in terms of hours worked or days off. Teachers who worked the “front” half, however, were allowed to trade days with the teacher in the home who worked the “back” half. This empowered teachers to have some control over days off without losing pay or using vacation days. Prior to the intervention, teachers would be allowed to assume any vacant shift if they felt it more desirable than the one they worked (because of their tenure). Consequently, vacant positions were generally the least desirable schedules. This, of course, presented great challenges for human resource staff responsible for the recruitment of new employees. Fourth, the compressed (12 hour) work schedule may have contributed to the effects of the revised staff-scheduling system because it allowed an additional one or two days off per week. Having more days off also allowed teachers the opportunity to make up days missed from work due to unplanned absences without using vacation days. Finally, since the schedules were generally standardized across homes in the revised staff schedule, it was easier to make arrangements in advance for substitute teachers to be available to fill vacancies caused by sickness, vacation, or personal days. This likely helped reduce overtime costs.

While, this combination of features probably contributed positively to the reductions in turnover, vacancies, and numbers of persons involved in care, there were also likely disadvantages as well. Some very good, talented teachers were likely lost as a result of this new schedule. Some teachers applied for positions with this agency because the eight-hour shifts fit their needs best. While the compressed work week allowed more days off, the long days were tiring and did not fit every teacher's needs. Additionally, the teachers with the highest tenure often held the "best" schedules, because they migrated to the most preferred schedules each time a vacancy occurred (and teachers with the highest tenure were given first choice of vacant positions under the new and old system). When schedules were "equalized" this benefit generally disappeared, and as a result, some very experienced teachers did not stay. In essence, the old system may have been better in keeping a core group of teachers, while the new system appears to be superior in its ability to maintain a stable work force. On a practical level, however, the old or traditional staffing strategy appeared to "work" teachers very hard because they were often pressured by managers to give up their precious few days off to fill a comparatively larger number of vacancies.

### ***Why Did the Family-Teaching Homes Outperform the Revised Schedule System?***

This study suggests that Family-Teachers have significantly less turnover than shift staff teachers. Prior research reports that Family-Teaching couples, who were trained in the use of the Teaching-Family Model, remained employed longer than live-in married couples (house parents) who did not use this model of care (Connis, 1979). Unfortunately, no analysis is available that explains why either result is the case.

As a result, we can only provide some guesses based upon experience. Anecdotally, life as a Family-Teacher seems to provide benefits that appear to be compelling for the people who decide to enter this lifestyle. This lifestyle, for example, allows Family-Teachers to spend a great deal of time with each other and their children. The trade-off is that they must support some additional people, people with developmental disabilities (whom they often treat as extended members of their own family). A job as a Family-Teacher allows married couples to become full-time professional parents for their extended family (e.g., there is no other "outside" job to take time away from time that could be spent with their family).

There may also be other important differences. First, Family-Teachers fulfill many more roles than do direct-care employees and many other live-in models of care. They manage their home and are fully responsible for meeting the outcomes expected by the agency that employs them. They hire and supervise "relief" teachers, they arrange work schedules, manage budgets and home operational checking accounts, and work directly with important program consumers (including parents/guardians, medical and clinical professionals, and employers of persons served). Second, Family-Teachers also participate in detailed training, weekly consultation, and must be certified as professional Family-Teachers. Third, they spend a great deal of time working with, teaching, and participating in leisure and recreational activities with those persons they serve, as do their children. Consequently, strong and highly intertwined relationships develop. Additionally, all this appears, in our experience, to lead to greater improvements in independence and adaptive behavior as well as less maladaptive behavior of the people served. This may also contribute to a more rewarding job for the Family-Teachers.

### ***FUTURE RESEARCH***

The revised scheduling system modestly reduced the number of different teachers involved in the care of people served and paid better wages without incurring substantial additional payroll costs or altering staff-to-client ratios. Thus, the revised scheduling system was successful. Perhaps more interesting, however, was that the best results that were achieved with the revised scheduling system paled in comparison to the outcomes achieved in the Family-Teaching homes. This suggests that the most productive line of future research might focus on an analysis of what aspects of the Family-Teaching homes contribute to these better outcomes.

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