Does Coordinated Care Management Improve Employment for Substance-Using Welfare Recipients?*

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ABSTRACT. Objective: This study tested whether coordinated care management, a continuity of care intervention for substance-use disorders, improved employment among men and women on public assistance compared with usual welfare management. **Method:** Participants were 421 welfare applicants identified via substance-use-disorder screening and assigned via a computerized allocation program to coordinated care management (CCM; $n = 232$) or referral and monitoring practices in usual care (UC; $n = 189$). Substance use, treatment attendance, job training and search activities, and employment outcomes were assessed for 1 year after baseline. **Results:** Men were more likely to be working than women overall. Among women, CCM clients increased their employment over time, whereas UC clients remained stable at very low employment levels. There were no treatment effects on employment for men. Also among women only, greater substance-use-disorder treatment attendance and abstinence in the first 6 months of CCM predicted higher rates of later employment. Job training activities were low and did not differ by condition between either gender. **Conclusions:** Findings are consistent with previous research supporting the effectiveness of case management for improving abstinence, which leads to employment gains, among substance-using women on public assistance. In contrast, various mandated elements of welfare-to-work programs for substance users—treatment attendance, case management, job training—did not improve employment rates for men. Implications of study results for designing effective welfare-to-work interventions in a post-welfare-reform era are discussed. (*J. Stud. Alcohol Drugs* **70:** 955-963, 2009)

FEDERAL WELFARE LEGISLATION enacted in the mid-1990s heightened concern about the well-being of poor individuals with substance-use problems (Metsch and Pollack, 2005). In the post-welfare-reform era, helping clients with substance-use disorders (SUDs) obtain employment in addition to resolving their substance-use problems has taken on a greater priority, because receipt of public welfare benefits is temporary and contingent on progress toward employability. Many states have responded to welfare reform by expanding treatment and other services for those with SUDs on public assistance in an attempt to assist them in moving toward self-sufficiency. More than half of the states have implemented SUD "screen-and-refer" programs in their public assistance agencies (Center for Substance Abuse Treatment, 2002). Typically in such programs, clients are screened for SUDs when applying for public assistance.

Clients who screen positive receive an SUD evaluation and, if warranted, are referred to treatment. SUD treatment is often mandated as a requirement for receipt of benefits. Clients are also monitored for compliance and referred to employment training activities either concurrent with SUD treatment or after completion of intensive treatment.

Screen-and-refer programs represent the standard of care among states providing enhanced services for SUD clients on public assistance. They also represent an important attempt to improve care for welfare recipients with SUD by creating greater coordination of care across welfare agencies and SUD treatment providers. However, simply referring clients to SUD treatment, even under a mandate for attendance, may fall short of what is needed to facilitate adequate engagement in treatment and achieve abstinence and employment goals, given the multiproblem nature of these clients and the system-level fragmentation among available services (Institute of Medicine, 2006).

Our group has conducted several trials to examine whether interventions that are more intensive than simple referral to SUD treatment might lead to improved outcomes for welfare clients. In a first study conducted in collaboration with the New Jersey Department of Human Services, we compared simple referral with SUD treatment and welfare monitoring versus intensive case management for mothers receiving Temporary Assistance for Needy Families (TANF) who met criteria for substance dependence and were not in SUD treatment. Findings provided strong support for the effectiveness of intensive case management compared to refer-

ral and monitoring. Specifically, intensive case management yielded significantly higher levels of SUD treatment engagement as well as higher rates of abstinence and employment at 24 months following program entry (cf. Morgenstern et al., 2003, 2006, 2009b).

Despite positive findings, this prior research had important limitations in informing policy. First, the experimental intervention—intensive case management—was delivered by specially selected and trained SUD counselors under clinical research conditions (e.g., use of manuals, fidelity supervision). The extent to which findings would generalize to interventions delivered under more routine service conditions is unknown. Second, the sample was limited to women not already in SUD treatment. Most screen-and-refer programs serve a much broader population that includes single adults (primarily men) and individuals currently engaged in treatment, including those in methadone maintenance programs. Third, the prior study was conducted during the initial phase of welfare reform. Many welfare experts believe that current welfare caseloads have more intense barriers to employment, because those able to work have already left the welfare rolls (Taylor and Barusch, 2004). Thus, the relative benefit of case management for employment outcomes compared with referral and monitoring might be weaker.

To address these limitations, we conducted a second project in a different urban county, at a later point in the implementation of welfare reform, and using a more representative sample of public assistance clients, including single adults (primarily men) and clients already engaged in SUD treatment. This study was conducted in collaboration with the Human Resources Administration, the New York City public assistance agency. In this second study, we compared coordinated care management (CCM) with the referral and monitoring activities of usual care (UC) within the Human Resources Administration. In a first study reporting on SUD treatment participation and abstinence outcomes for this sample, we found that CCM was more effective than UC, except for clients receiving methadone maintenance at baseline (Morgenstern et al., 2009a).

Current study

The primary aim of the current study was to examine the effectiveness of CCM versus UC in improving employment during the 12 months following baseline. We also tested whether early SUD treatment participation and abstinence were associated with later employment and whether CCM produced greater participation in employment training activities. Given the heterogeneous composition of participants, we also tested for two possible subgroup differences in intervention effects: (1) clients in methadone maintenance versus those not in methadone maintenance at baseline and (2) men versus women. We tested for differences in methadone participation based on the findings described above. We tested

for possible gender differences in treatment effects because studies have consistently shown that women experience more barriers to employment than men (Greenfield et al., 2007) and that abstinence is related to employment among men but not women (e.g., Arndt et al., 2004). Thus the overall impact of CCM on women might be weaker than for men.

Method

Study context

We examined the effectiveness of CCM in improving employment outcomes in the context of a practical clinical trial of care management for substance-using welfare applicants. The 421 clinical trial participants were assigned either to CCM (a continuity-of-care intervention focused on engaging clients in drug treatment, linking them directly to needed ancillary services, and fostering transition to employment) or UC (a screen-and-refer intervention focused on assessing clients for substance use and related problems and referring needy clients to community services). For a full description of study recruitment, assessment procedures, and outcomes see Morgenstern et al. (2009a). Of the 421 participants, 27 (6%) did not provide data at any follow-up time point (1, 3, 6, and 12 months), leaving 394 participants (221 CCM, 173 UC) included in current study analyses. The analyzed sample was compared with those lost to follow-up on demographic and baseline characteristics; no significant differences were found. The follow-up rate for employment outcome data was greater than 78% at each time point and did not differ between conditions at any point. The study was conducted under approval by the governing institutional review board.

Participants

Participants ($N = 421$) were primarily men (66%) and either black (49%) or Hispanic (43%). They averaged (SD) 39.6 (8.5) years of age, and most were not married (91%). Fifty-five percent graduated high school or received an equivalency diploma. Severity and chronicity of substance use were high: At baseline, participants reported using alcohol or drugs on more than half the days of each month, and they averaged 9.7 years of regular heavy alcohol use and 10.4 years of regular heroin or cocaine use. Almost everyone (95%) reported having previously held a job, although one-quarter had not worked at all in the past 3 years, and 81% reported no days of combined on- and off-the-books work during the previous month. About one in five had unstable living conditions and almost half (46%) were involved in the criminal justice system. The vast majority (81%) had received public assistance before their application for benefits at baseline. Condition differences (CCM vs UC) in baseline characteristics were tested using F tests for continuous variables and chi-square tests for categorical variables. No

significant differences were found for any variable. Gender differences were then tested. No significant differences were found on any demographic or substance-use variable. In other domains, men reported more lifetime and recent work and also more criminal justice involvement, whereas women reported greater history of welfare involvement.

Treatment assignment and study assessment procedures

All persons applying for public assistance in all Bronx county welfare intake centers during the 2-year study enrollment period were administered a modified version of the CAGE screening questionnaire for substance involvement (Ewing, 1984). Applicants who screened positive by endorsing at least one item were assigned to either CCM or UC via a computerized automated welfare management system that assigned clients to the next available assessment slot at either site. Slots turned over several times per week, and clients were assigned regardless of geographical proximity to a center, client preference, or any other client characteristic. Welfare workers could not override the computer assignment. A check of Human Resources Administration administrative data during the 3 months before the start of the study found no differences between the two sites on any demographic, welfare, or treatment-related variable and no differences in show rates for assessment appointments. Thus, assignment to condition did not appear to be biased.

Eligibility screens and baseline interviews were completed at one sitting by research assistants in private offices at the CCM and UC assessment centers. The following study eligibility criteria were designed to identify persons most likely to benefit from SUD treatment services provided in CCM and UC: at least 1 day of illicit drug use or heavy drinking in the past month, or 1 day of illicit drug use or heavy drinking in the past 6 months and currently motivated to attend treatment; not hospitalized for mental health problems more than once in the past year; not currently experiencing psychotic symptoms or prescribed antipsychotic medication; not residing on the streets, in shelters, or in imminent danger of being homeless; and not planning to move from the area for 6 months. Follow-up interviews were completed 1, 3, 6, and 12 months after baseline in research offices (81%), via mail (9%), by phone (6%), or in the home (4%). There were no between-condition differences in the type of interview. Participants received product vouchers worth $50-$75 after each interview.

Treatment conditions

Coordinated care management featured an innovative care management approach that focused on coordinating services among multiple providers to promote outcomes for individual clients, in contrast to traditional case management, which focuses solely on making client referrals and monitoring client activity. CCM administrators and case managers (CMs) communicated directly with local service providers about program features and service quality, the suitability of program activities for welfare clients, and program emphasis on sobriety and employability. Each CM monitored program activities at four to six drug treatment sites via bimonthly site visits. They maintained caseloads of 30-35 clients whom they contacted regularly in their office or by phone; they also visited clients at drug treatment programs on a biweekly basis. UC clients were assigned to welfare eligibility workers who maintained caseloads of 75-250 clients and made service referrals during in-office meetings only. They met with clients annually for recertification or whenever a noncompliance issue arose. A full description of the two conditions is provided in Morgenstern et al. (2009a).

Measures

Baseline demographics, substance-use history, employment history, and other characteristics. Demographics, employment history, housing status, psychiatric history, drug treatment status (in a drug-free program, in a methadone maintenance program alone or in combination with drug-free treatment, no treatment), and welfare experience were obtained at baseline via structured interview procedures. Information on substance use and criminal justice involvement was obtained using the Addiction Severity Index (ASI, 5th edition; McLellan et al., 1992). Information on mental health status was assessed with the Short Form-12 (SF-12; Ware et al., 2002), a well-validated brief questionnaire.

Employment outcomes. Days of employment were assessed using a structured interview measuring the number of days worked since the previous assessment time point. The interview, previously used in the multisite Employment Retention and Advancement (ERA) evaluation of innovative welfare programs for hard-to-employ populations sponsored by the Department of Health and Human Services, is a state-of-the-art measure of employment outcomes in welfare-to-work evaluations (MDRC, 2008). At each follow-up assessment, participants were asked to recall how many days since the last interview they were paid for working on the books, off the books, in full-time jobs, or in part-time jobs. Specific dates of employment were logged, and a monthly timeline of days worked was constructed for each participant. Four outcomes were calculated for each month: number of days worked (on and off the books combined), percentage of the total sample who reported any day of work, percentage of the total sample who worked part time (defined as 5 or more days of employment per month), and percentage who worked full time (defined as 19 or more days of employment per month).

Abstinence rates and treatment attendance. Abstinence from alcohol and drug use during each month over the 12-month follow-up period was determined using self-

report and biological measures. The Timeline Followback method (TLFB; Sobell and Sobell, 1996) is a structured interview technique that evaluates quantity and frequency of substance use and has demonstrated good reliability and validity (Sobell et al., 1996). In this sample, self-report data from the TLFB were verified by two biological measures: urine screens and hair samples analyzed using radioimmunoassay tests followed by mass spectrometry confirmation. Biological procedures confirmed the validity of the TLFB data (Morgenstern et al., 2009a). Information on attendance at drug-free outpatient treatment programs (number of days participating in treatment services during the previous 30 days) was collected using a modified version of the Treatment Services Review (TSR: McLellan et al., 1998), a companion instrument to the ASI that yields data on the number of services received in various psychosocial domains.

Employment training and job search activities. The TLFB was also used to log any day of participation in welfare-mandated employment training. This included three kinds of training activities: welfare-approved postsecondary education classes, job training programs sponsored by the welfare department, and work experience programs managed by the welfare department to provide recipients with field-based job experience. Common job search activities were assessed via a 12-item questionnaire using a dichotomous (yes/no) scale. A summary variable was created by tallying positive responses across all search activities undertaken since the previous interview: filled out job application, attended job interview, investigated help-wanted signs, checked with state employment services, asked a friend/neighbor for job referrals, and so forth.

Statistical analyses

Data were analyzed using generalized estimating equations (GEEs), an extension of the General Linear Model that permits a within-subject repeated measures examination of change over time as well as correction of variance estimates for correlated data within subject (Zeger and Liang, 1986; Zeger et al., 1988). GEEs were used to examine main effect condition differences as well as subgroup effects involving methadone status and gender. Analyses of employment outcomes used a strategy similar to our previous study of employment outcomes for substance-using TANF recipients (Morgenstern et al., 2009b). First, we selected days of employment as our main outcome because it can be modeled as a count variable rather than a dichotomous variable, thus providing a more discriminating dependent measure. The number of days employed in each of 12 months was modeled using negative binomial regression models with log link function. Next, when a significant main effect was found for days employed, we examined three additional categorical indices of employment to verify the finding; because of the low rates of employment in this sample, we used this strategy to increase the interpretability of the findings. The additional categorical variables were percentage reporting any day of employment in each month, percentage working part time in each month (5 or more days per month), and percentage working full time in each month (19 or more days per month).

To account for factors that may confound associations among treatment condition, gender, and employment outcomes, we undertook a process of model building in which we included a variety of baseline characteristics as covariates in the initial model. These included age, ethnicity, years of education, housing status, criminal justice involvement, mental health status, drug treatment status, and number of days of work in the 30 days before baseline. In the initial full GEE model, the following covariates had a marginal association ($p < .10$) with employment and were, therefore, retained in the final model: age, ethnicity, drug treatment status, years of education, mental health status, and pre-baseline workdays. In the final GEE model, we examined the main effects of treatment condition, as well as condition interactions with two client characteristics (methadone status, gender), in separate analyses. For example, with regard to gender, we tested for condition effects: Condition × Time, Condition × Gender, and Condition × Time × Gender. Because there was a significant condition interaction with gender (see the Results section), we then examined whether treatment condition and Condition × Gender effects were associated with abstinence and SUD treatment engagement. We also examined whether CCM yielded higher rates of job training and search activities than UC during the follow-up period.

Results

Main employment outcomes

The main study analyses tested the hypothesis that CCM would be superior to UC in promoting employment among substance-using welfare recipients. We first observed outcomes across study conditions and found that, on average, less than half of participants obtained employment during the outcome period (see Table 1). Between-condition GEE analyses across 1-year follow-up revealed no significant main effect of condition and no significant Condition × Time interaction for days of employment. Thus, the primary hypothesis of an overall effect for CCM on employment was not confirmed.

A significant main effect of methadone status was found, with clients participating in methadone maintenance less likely to be working (incidence rate ratio [IRR] = 0.59, 95% confidence interval [CI] = 0.47-0.74). In addition, a significant Condition × Methadone Status × Time interaction was found (IRR = 0.96, 95% CI: 0.94-0.98). Probing this interaction did not yield any significant condition effects or Condition × Time effects in either methadone subgroup.

TABLE 1. Condition differences in quarterly employment outcomes for men and women

	Men		Women	
	CCM ($n = 153$)	UC ($n = 110$)	CCM ($n = 68$)	UC ($n = 63$)
Variable	%	%	%	%
Months 1-3				
Any work[a]	48	54	16	18
Part-time work[b]	39	39	15	6
Full-time work[c]	11	9	3	2
Months 4-6				
Any work	43	53	21	14
Part-time work	35	43	15	8
Full-time work	7	14	3	3
Months 7-9				
Any work	42	52	22	13
Part-time work	33	46	18	7
Full-time work	10	14	6	2
Months 10-12				
Any work	42	47	22	16
Part-time work	35	38	19	10
Full-time work	10	14	4	2

Notes: Employment categories (any, part time, full time) are not mutually exclusive. [a]Any work was defined as client report of at least 1 day of work in any given month in each quarter; [b]part-time work was defined as client report of at least 5 days of work in any given month within each quarter; [c]full-time work was defined as client report of at least 19 days of work during any given month within each quarter. CCM = coordinated care management; UC = usual care.

Plots of the interaction revealed a slight increase in employment over time for the nonmethadone subgroup, suggesting that a longer follow-up period may have yielded a difference favoring participants not receiving methadone treatment.

A significant main effect of gender was found (IRR = 2.53, 95% CI: 2.06-3.12), with men more likely to be working than women. Significant Condition × Gender (IRR = 0.38, 95% CI: 0.25-0.59) and Condition × Gender × Time (IRR = 0.98, 95% CI: 0.97-0.99) interactions were also found. Interactions were probed by testing condition and Condition × Time effects separately for men and women. A significant condition main effect was found for women (IRR = 2.76, 95% CI: 1.93-3.96, Cohen's d = 0.56), and a trend-level effect was found for men (IRR = 0.82, 95% CI: 0.65-1.02, Cohen's d = 0.11). For women, CCM clients were more likely to be working, and for men, UC clients worked more. Also, a significant Condition × Time interaction was found for women only (IRR = 0.96, 95% CI: 0.93-0.99). The Condition × Time effects for each gender are graphed in Figure 1, which depicts the average number of days worked per month for men and women in CCM and UC. Among women, CCM clients increased their employment over time, whereas UC clients remained stable at very low levels of employment (on average, less than 1 day per month). Among men, UC clients had higher rates of employment during the initial outcome period, but CCM clients increased their employment rates at later outcome points such that there appeared to be minimal difference between conditions at the end of follow-up.

Condition differences on categorical employment outcomes

To further examine the significant condition effects for women, we examined three categorical employment outcome variables, depicted in Table 1: percentage reporting any work, percentage working part time, and percentage working full time. To parallel the analyses described above for days employed, we used GEE models to examine condition and gender effects on any work and part-time work. Because so few people reported full-time work, we did not conduct a GEE model on this outcome. Results for both categorical outcomes were consistent with those described above using the count outcome. For example, a significant Condition × Gender × Time interaction was found for percentage working part time (odds ratio [OR] = 0.97, 95% CI: 0.94-0.99). Probing this interaction yielded findings that mirrored those found for the days of employment variable: Among women, CCM clients increased employment in the later quarters, whereas UC clients were relatively stable and below CCM levels. Among men, UC showed greater initial increases that tailed off over time compared with CCM.

Testing underlying assumptions about CCM effects on employment

The above findings suggest that CCM was more effective than UC in increasing employment for women but not men. To examine possible explanations for this gender effect, we investigated gender differences in two hypothesized pathways to employment. We tested whether (1) abstinence and (2) SUD treatment attendance during the initial 6 months of intervention predicted increased workdays over the final 6 months. Abstinence was operationalized as a continuous variable (number of months abstinent in the first 6 months of the study period) and treatment attendance as a dichotomous variable (any reported participation in a drug-free treatment program in the first 6 months vs none). Two GEE models tested these associations. The first model tested abstinence effects—Abstinence × Condition, and Abstinence × Condition × Gender—on days of employment. The second model tested treatment attendance effects—Attendance × Condition, and Attendance × Condition × Gender. As a final post hoc investigation to explain the observed gender effect for CCM, we examined condition and gender differences and Gender × Condition effects for two additional hypothesized predictors of employment: welfare-mandated employment training and common job search activities.

Abstinence. Note that overall abstinence rates increased in each condition during the initial 6 months of the study period (fully described in Morgenstern et al., 2009a): In UC, 16% reported complete abstinence at 1 month and 25% at 6 months; in CCM, 26% reported abstinence at 1 month and 39% at 6 months. GEE analyses showed no main effect of initial abstinence on later employment. However, there was a
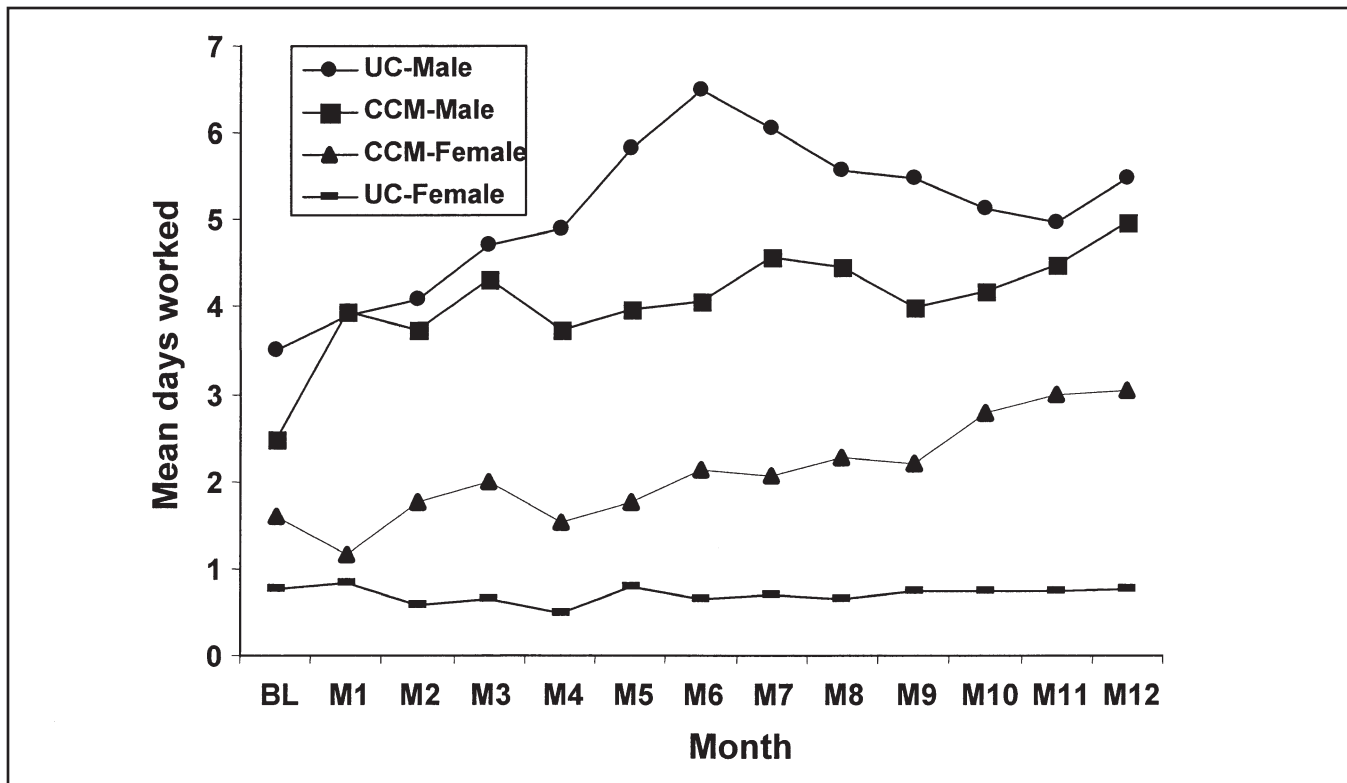
FIGURE 1. Mean number of days worked in each study month (M) for each treatment condition: Male versus female clients; CCM = coordinated care management; UC = usual care; BL = baseline

significant Abstinence × Condition interaction (IRR = 1.18, 95% CI: 1.05-1.32), and a significant Abstinence × Condition × Gender interaction (IRR = 0.71, 95% CI: 0.63-0.80). The higher order, three-way interaction was probed by testing condition and Condition × Abstinence effects separately for men and women. A significant Condition × Abstinence effect was found for women only (IRR = 2.86, 95% CI: 1.67-4.92). Probing this, we found significant but opposite main effects of abstinence on employment in UC (IRR = 0.57, 95% CI: 0.35-0.90) versus CCM (IRR = 1.27, 95% CI: 1.13-1.43). These results showed that for UC women, greater abstinence in the initial 6 months predicted fewer days of employment in the final 6 months, whereas for CCM women, greater initial abstinence predicted more subsequent employment. For men, no significant relation between abstinence and employment was found for either condition.

Treatment attendance. Findings for treatment attendance paralleled those for abstinence. Note that across study conditions, a substantial proportion of participants at each follow-up time point reported at least 1 day of attendance in drug-free treatment during the previous month: 50% at 1 month, 46% at 3 months, 35% at 6 months, and 21% at 12 months. GEE analyses produced a significant Attendance × Condition × Gender interaction (IRR = 0.90, 95% CI: 0.87-0.94); probing this interaction revealed an Attendance

× Condition effect for women only (IRR = 1.40, 95% CI: 1.22-1.60). Again, there were significant but opposite main effects of treatment attendance on employment for women in UC (IRR = 0.86, 95% CI: 0.78-0.94) versus CCM (IRR = 1.11, 95% CI: 1.06-1.16). In UC, women who attended treatment in the first 6 months were working less in the final 6 months, whereas in CCM, women who attended treatment initially were working more in subsequent months. For men, no significant relation between treatment attendance and employment was found for either condition. The complex findings for abstinence and treatment attendance are interpreted in the Discussion section.

Employment training and job search activities. There was little participation by men or women in Human Resources Administration–mandated employment training. Participation rates were very low across assessment time points for three different mandated training activities: job search/training programs (men: 7% at 1 month, 11% at 3 months, 12% at 6 months, 17% at 12 months; women: 5% at 1 month, 8% at 3 months, 12% at 6 months, 20% at 12 months), education programs (men: 2% at 1 month, 3% at 3 months, 4% at 6 months, 7% at 12 months; women: 3% at 1 month, 3% at 3 months, 5% at 6 months, 7% at 12 months), and work experience programs (men: 1% at 1 month, 2% at 3 months, 4% at 6 months, 2% at 12 months; women: 3% at 1 month, 5%

at 3 months, 4% at 6 months, 4% at 12 months). Regarding common job search activities (e.g., filled out application, attended job interview, checked for help-wanted signs), moderate rates of job seeking were reported by men (45% at 1 month, 58% at 3 months, 53% at 6 months, 58% at 12 months) and women (37% at 1 month, 35% at 3 months, 38% at 6 months, 41% at 12 months). No significant condition or Condition × Gender effects were found for employment training or job search activities. For job search only, a significant main effect of gender was found (OR = 1.86, 95% CI: 1.34, 2.59), with men engaging in more job seeking activities over time than women.

Discussion

This study compared the impact on employment of two policy-relevant interventions for individuals with current substance-use problems applying for public assistance. Among women, coordinated care management yielded significantly higher rates of employment during the 12-month outcome period when compared with referral and monitoring practices in UC. In addition, some of the underlying assumptions about how CCM might improve employment outcomes were supported for women. Specifically, women in CCM attended more SUD treatment and had significantly higher levels of abstinence than those in UC (Morgenstern et al., 2009a); in turn, greater treatment attendance and abstinence in the first 6 months of CCM predicted higher rates of employment in the following 6 months. In contrast, among UC women, greater abstinence and treatment attendance in the first 6 months of the study predicted less employment in the 7-12 month follow-up period. This finding may reflect the fact that many SUD programs do not encourage clients to engage in employment or employment training programs while clients are in treatment. Also, programs may assist clients in receiving work exemptions or extensions of time-limited benefits. Among men, CCM did not yield improved employment outcomes. Rather, men in the UC condition worked significantly more overall, although the rate of employment for both groups rose modestly and appeared similar during the last quarter of follow-up. The hypothesis that treatment effects would be weaker for those in methadone maintenance was not supported.

Findings for women are consistent with our earlier study (Morgenstern et al., 2009b) in supporting the effectiveness of case (or care) management for improving employment outcomes among substance-using women on welfare. Importantly, in both studies, enhanced case management increased rates of abstinence, and prior abstinence was significantly related to employment for women. The latter finding may help explain why case management is effective among women and may point toward ways to strengthen case management effects. Another consistent finding across studies was that although case management significantly

improved employment for women, the overall rate of employment among women was relatively low. Women in both studies experienced multiple barriers to employment related to physical and mental health, housing and legal status, and child welfare issues (Morgenstern et al., 2008). Given the limited research to date, it is difficult to determine whether a more robust intervention would greatly improve employment outcomes or whether many women are too disabled or preoccupied by living status and child care issues to engage in competitive employment.

One important difference in the current study versus our earlier study is that the effects of CCM appeared in the first 12 months, rather than emerging later. This appears to be related to differences in rates of employment in UC. In the current study, employment rates among UC women did not increase after baseline and were very low. In the prior study (Morgenstern et al., 2009b), UC women significantly increased their employment during the first 6 months after baseline. These differences are likely related to study timing. The prior study was conducted at the beginning of welfare reform (1998-2001), when many women on welfare were seeking work and leaving the welfare rolls. The current study was conducted after more than 5 years of welfare implementation in New York City. Thus, women in the current study may have been less motivated or less able to work, and also they may have faced a more difficult labor market.

Among men, employment patterns did not show the expected trajectory of treatment attendance leading to abstinence and then employment. In addition, rates of engagement in employment training activities were low. Thus, the various programmatic elements of the welfare-to-work program—CCM, SUD treatment, employment training—appeared to have minimal or no impact on employment for men, at least as measured in this study. To the best of our knowledge, this is the first controlled trial to test care or case management in a welfare setting for men. A prior study found that case management had no significant impact on employment among male veterans (Siegal et al., 1996). It may be that longer term follow-up would yield more positive employment findings. For example, our earlier study found that case management effects on employment for women did not emerge until the last quarter of the second year of follow-up (Morgenstern et al., 2009b).

Why were findings related to CCM and other program elements not more positive for men? One likely explanation is men differed from women in a number of baseline characteristics: significantly fewer employment barriers, greater readiness to work, and shorter periods on public assistance. It appears that relatively few men followed the expected employment path of engaging in SUD treatment, abstinence, and then employment training. Instead, men sought work outside of the program elements. All things considered, interventions specifically focused on rapid engagement in the workforce might be a better match for men.

Implications for policy and research

In 2001 the Physician Leadership on National Drug Policy (PLNDP) recommended that the federal government use Medicaid to fund case management services for welfare recipients with SUD (Physician Leadership on National Drug Policy, 2001). At the time, case management was thought to be a best practice for this population, but there were no rigorous studies to support the recommendation. The current study adds to our earlier findings that case management strategies are effective for women on welfare and provides strong empirical support for the PLNDP recommendation. At the same time, findings of overall low employment rates across gender and the limited effectiveness of welfare-to-work interventions for men with SUD raise concerns about the well-being of this vulnerable group of Americans post-welfare reform. Service system fragmentation remains a major obstacle to improving care for those receiving publicly funded behavioral health services (Institute of Medicine, 2006), and there is a surprising paucity of research to inform employment programs for those with SUDs (Magura et al., 2004). The current findings indicate the need to gain a much better understanding of positive trajectories out of welfare and SUD for men and women so policymakers can promote more effective programs. It seems likely that greater tailoring of programs to subtypes of clients will improve outcomes. A crucial issue is whether low-threshold approaches to employment that do not require abstinence before obtaining work (Magura et al 2004) might be more effective for men.

Study limitations

Coordinated care management was not protocol driven, and implementation variability across care managers may have weakened effects; findings must be judged accordingly. Findings are also limited by study inclusion criteria. We excluded clients not in need of current SUD treatment and also those who were homeless or reported serious mental health problems (repeated psychiatric hospitalizations or antipsychotic medication) that might have limited their ability to benefit from CCM. In addition, we tested for condition main effects and two Subgroup × Condition interactions. Although subgroup analyses were specified a priori and limited to two variables, it is possible that findings may capitalize on Type I error via greater likelihood of chance findings related to conducting multiple statistical tests. We believe the likelihood of this is low given the medium condition effect size for women ($d = 0.56$; Cohen, 1988), but it cannot be ruled out. Finally, findings are limited to a 12-month outcome period for initial employment effects. Long-term follow-up data are needed to determine whether effects for women are sustained or effects for men emerge at later time points.

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