



Cost-effectiveness analysis of a continuing care intervention for cocaine-dependent adults



Kathryn McCollister^{a,*}, Xuan Yang^a, James R. McKay^b

^a Department Public Health Sciences, University of Miami Miller School of Medicine, Miami, FL, United States

^b University of Pennsylvania and the Philadelphia Veterans Affairs Medical Center, Philadelphia, PA, United States

ARTICLE INFO

Article history:

Received 29 June 2015

Received in revised form 23 October 2015

Accepted 27 October 2015

Available online 12 November 2015

Keywords:

Continuing care

Cost-effectiveness analysis

Substance use disorders

Economic evaluation

ABSTRACT

Introduction: The study conducts a cost-effectiveness analysis (CEA) of a continuing care Telephone Monitoring and Counseling (TMC) intervention for adults diagnosed with cocaine dependence. Participants were randomly assigned to a control condition of intensive outpatient treatment only (treatment-as-usual, or TAU; $N=108$), or to one of two treatment conditions featuring TMC ($N=106$) and TMC plus incentives (TMC-plus; $N=107$). Follow-up assessments were conducted over a 2-year period.

Methods: Intervention and client costs were collected with the program and client versions of the Drug Abuse Treatment Cost Analysis Program (DATCAP). Effectiveness was measured as the number of days abstinent during follow-up. Secondary analyses consider alternative measures of effectiveness and the reduced societal costs of physical and mental health problems and criminal justice involvement.

Results: From the societal perspective, TMC dominates both TAU and TMC-plus as a cost-effective and cost-saving intervention. Results varied by substance-using status, however, with the subgroup of participants in TMC-plus that were using drugs at intake and early in treatment having the greatest number of days of abstinence and generating similar savings during follow-up than the TMC subgroup using drugs at intake.

Conclusions: Telephone monitoring and counseling appears to be a cost-effective and potentially cost-saving strategy for reducing substance use among chronic substance users. Providing client incentives added to total intervention costs but did not improve overall effectiveness.

Clinical trial registration: Clinical Trials.gov Number: NCT00685659.

© 2015 Elsevier Ireland Ltd. All rights reserved.

1. Introduction

Substance use disorders are now commonly viewed as a chronic condition, ranking within the top 10 non-genetic causes of mortality in the United States and comprising more than 5% of the global burden of disease (Degenhardt et al., 2013; Mokdad et al., 2000). In the US alone, substance use disorders generate around \$600 billion annually in medical services, crime, and productivity costs (National Institute on Drug Abuse, 2011). Historically, addressing substance use disorders focused on acute episodes of treatment in traditional modalities (e.g., 28-day residential treatment, standard outpatient treatment). The current clinical perspective on treating substance use disorders embraces a chronic disease model in recog-

inition of the fact that for many individuals, multiple treatment episodes are required to achieve long-term recovery (Hser et al., 1997; McKay, 2001; McKay and Hiller-Sturmhöfel, 2011; Dennis and Scott, 2007). As with any chronic disease, the objectives for promoting successful long-term management of substance use disorders feature regular screening, monitoring, and assistance linking with additional care as needed (McKay, 2009; Dennis et al., 2014). Extending treatment and recovery services beyond an initial treatment episode is intuitively appealing from a clinical perspective but also implies long-term costs, creating a need to find both effective and economically viable continuing care strategies for individuals with substance use disorders.

Continuing care is provided in a variety of formats and modalities, including group counseling, individual therapy, telephone counseling, brief checkups, and peer-support meetings, and encompasses both stand-alone interventions and step-down approaches (e.g., from residential to intensive outpatient; McKay, 2009). The literature reports generally mixed evidence of the effectiveness of continuing care (McKay et al., 2005; McKay, 2009; McKay et al., 2013; Godley et al., 2014; Van Horn et al., 2011).

* Corresponding author at: Department Public Health Sciences, University of Miami Miller School of Medicine, Clinical Research Building, Office 1026, 1120 NW 14th Street, Miami, FL 33136, United States. Tel.: +1 305 243 3479; fax: +1 305 243 5544.

E-mail address: kmccolli@miami.edu (K. McCollister).

However, a recent meta-analysis of 19 studies concluded that, on average, continuing care was more effective than minimal or no continuing care as an extension to formal modalities of treatment (Blodgett et al., 2014). Continuing care approaches that are more adaptive, have longer durations, and use motivational incentives to increase participation in treatment performed better than average (Dennis et al., 2014).

Despite evidence supporting the effectiveness of continuing care protocols in treating substance use disorders, there is limited funding and no formal reimbursement mechanism for many of these services. One major limitation is the scarcity of economic evidence showing the return-on-investment (ROI) of continuing care interventions to rally support among providers, health insurance companies, and Medicare/Medicaid. This study adds to the limited economic data on continuing care for substance use disorders by performing the first cost-effectiveness analysis (CEA) of Telephone Monitoring and Counseling (TMC), a continuing care intervention developed by McKay and colleagues, which seeks to promote long-term recovery while reducing the participation burden among patients (McKay et al., 2010; McKay et al., 2011). The CEA estimates and compares intervention costs and outcomes among three study conditions: TMC, TMC plus incentives (TMC-plus), and treatment as usual (TAU). Multiple analytic perspectives are represented, thus in addition to calculating cost-effectiveness ratios with direct intervention costs, we also take into account client costs as well as societal costs attributable to medical and psychiatric problems, and illegal activity. This study was approved by the University of Pennsylvania and University of Miami Institutional Review Boards.

1.1. Economic studies of continuing care

Recent economic studies of continuing care interventions report mixed results. Godley et al. (2010) evaluated the cost-effectiveness of Motivational Enhancement Therapy/Cognitive Behavior Therapy (MET/CBT), with and without Assertive Continuing Care (ACC) for adolescents and found no statistically significant differences in the incremental effectiveness of ACC following outpatient treatment. Thus, the least expensive option (MET/CBT without ACC) was deemed most cost effective. More supportive evidence is presented in McCollister et al. (2013), which conducted a CEA of Recovery Management Checkups (RMC), a quarterly monitoring and relapse prevention protocol for individuals with substance use disorders. Relative to outcome monitoring only (OM-only), RMC was both cost-effective in reducing substance use and cost saving after factoring in reductions in the costs associated with health care utilization, other social services, unemployment, and criminal activity.

Popovici et al. (2008) conducted a systematic review of published economic studies featuring unique types of continuing care, including step-down from hospital inpatient or residential treatment to outpatient treatment, methadone maintenance, and corrections-based treatment with aftercare. Findings suggest that among the few existing economic studies in this area, the majority of continuing care/aftercare programs appear to be more cost-effective than a single (acute) treatment approaches, but the review also notes several evidence gaps and methodological challenges in this literature. For instance, many of these studies focus on special or priority populations such as criminal offenders, minorities, and women, which limits generalizability of the economic findings to other populations and settings. In addition, the authors note that many of these studies are limited by quasi-experimental designs, short follow-ups, and nonstandard approaches to estimating intervention costs and consequences.

The current study makes an important contribution to the literature on continuing care for substance use disorders and addresses evidence gaps noted in the Popovici et al. (2008) review.

The sample includes males and females from an urban setting with cocaine dependence. The study followed individuals over 2 years providing a long-term perspective on the clinical and economic impact of the TMC interventions. Finally, the analysis features multiple perspectives on costs and consequences generating results of interest to providers, patients, and other stakeholders.

2. Data and measures

2.1. Telephone monitoring and counseling (TMC)

Data for the current study come from a randomized trial of TMC for cocaine dependent patients (McKay et al., 2013). TMC consists of telephone-based continuing care counseling sessions in which the counselor uses a cognitive-behavioral approach to monitor substance use, identify relapse risk factors, develop and rehearse coping strategies, and help clients link to community support groups. Results from the trial showed that augmenting an intensive outpatient program (IOP) with TMC produced better substance use outcomes than IOP only, for participants who were actively using cocaine or alcohol when they entered IOP or during the first few weeks of IOP (McKay et al., 2013).

Participants who had been in IOP for 2 weeks were randomly assigned to three study conditions. The control group (TAU) received IOP only, which provided approximately 9 h of group-based treatment per week, and patients could typically attend for up to 3–4 months (McKay et al., 2010). Participants in the TMC conditions had one or two initial face-to-face sessions in the first week of the intervention (which occurred in weeks 3–4 of IOP) and then received brief telephone calls (on average 16.4 min) for up to 24 months. The calls were weekly for the first 2 months, but then tapered to twice monthly for the remainder of the first year, monthly during months 13–18, and every other month for the rest of the second year.

The mean number of continuing care sessions received by participants who completed their orientations was 15.5 (SD = 14.1) in TMC and 26.0 (SD = 12.8) in TMC-plus, $F(1, 164) = 26.30$, $p < 0.0001$. The mean duration of sessions was 21.1 min (SD = 13.6) in TMC and 20.1 min (SD = 11.8) in TMC-plus. The percentage of sessions completed in person, as opposed to over the telephone, was 46.4% in TMC and 42.4% in TMC-plus. In person sessions were longer than telephone sessions (25.9 vs. 16.4 min, respectively).

Participants in TMC-plus experienced the same as TMC, with the addition of financial incentives for attending treatment sessions. Participants received a \$10 gift coupon for each regularly scheduled or step-care session attended in the first year, and a bonus \$10 gift card every time three consecutively scheduled sessions were completed. The gift cards were for department stores and a local grocery store chain (McKay et al., 2013). Additional details on the randomization procedures are provided in McKay et al. (2013).

2.2. Sample characteristics

Participants were recruited from two publicly funded intensive outpatient programs (IOP) in Philadelphia. A total of 773 individuals were screened for the study. Of these, 321 met criteria for lifetime cocaine dependence, reported using cocaine in 6 months prior to entering the study, and were willing to participate in research (McKay et al., 2013). The participants were on average 43 years old and had 11.3 years of education. The majority of participants were male (76%) and African American (89%). Thirty-four percent of participants reported using alcohol at least one time in the 30 days preceding the baseline interview (a period that included the first 3 weeks of IOP), and 42% reported using cocaine at least one time during this period. Table 1 is adapted from McKay et al. (2013) and

Download English Version:

<https://daneshyari.com/en/article/1069737>

Download Persian Version:

<https://daneshyari.com/article/1069737>

[Daneshyari.com](https://daneshyari.com)