

The Medical Offset Effect: Patterns in Outpatient Services Reduction for High Utilizers of Health Care

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Published online: 23 February 2008
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Abstract Psychosocial intervention has been found to be related to subsequent reductions in health care use. Studies generally measure this “offset effect” by combining medical use categories into one outcome variable, such as outpatient doctor visits. However, using a general outcome variable may obscure more specific patterns of reduction. In an effort to identify potential “targets” for mental health intervention, outpatient care for health screening, illness visits, laboratory/X-ray, and urgent care were considered. Health care use reductions were most prominent for high utilizers and were found across a number of different types of outpatient care. With high utilizers, those who participated in MFT showed significant reductions of 68% for health screening visits, 38% for illness visits, 56% for laboratory/X-ray visits, and 78% for urgent care visits.

Keywords Family therapy effectiveness · Health care · High utilizers of health care · Cost effectiveness · Effectiveness research · Cost effectiveness of marital/couple and family therapy · Outpatient health care · Ambulatory care

The Medical Offset Effect: Patterns in Medical Utilization Reductions for High Utilizers of Health Care

The United States spends more money per person on health care than any other nation in the world (Agency for Health Care Research and Quality [AHRQ] 2002). Due in part to a number of factors beyond immediate health concerns (Crane 1995; Nichols 2003), health care costs in the US continued to grow from \$1,106 per person in 1980 to about \$6,280 per person in 2004 (Stanton and Rutherford 2005) While the implementation of managed care slowed the growth of health care costs for a time (Cockerham 1998), costs are again on the rise and may be expected to continue rising in the foreseeable future (AHRQ 2002).

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Although a number of factors contribute to the increase in health care costs, at least some is due to over-use of health care services. In fact, the proportion of concerns reported to primary care providers that have no physical cause (and are likely related to emotional problems) is estimated to total 50% or higher (Miranda et al. 1991; Hafen et al. 1996). In addition, mental health disorders remain among the most expensive health conditions overall, ranked after heart disease, cancer and trauma (Stanton and Rutherford 2005).

Interestingly, growing evidence suggests that relationship functioning can have a major impact on health (e.g., Jenkins 1997). Accordingly, addressing relationship problems through marital and family therapy (MFT) may have the effect of decreasing excessive health care use. In fact, research over the last four decades indicates that participation in mental health services can actually decrease subsequent health care use and costs (e.g., Chiles et al. 1999; Crane et al. 2004; Law and Crane 2000; Law et al. 2003). The decrease in health care use following therapy is often referred to as “medical offset” or the “offset effect” (Shemo 1985–86).

Medical offset studies typically combine many different types of health care services (e.g., laboratory tests and urgent care) into a broad category often referred to as “ambulatory care” (Chiles et al. 1999). By grouping all types of health care use into a single category, the results are limited in that some types of services provided in primary care settings may be more sensitive to changes in psychosocial well-being than others (e.g., laboratory tests and X-rays). Consequently, trends in decreases of health care use may be obscured by grouping different types of health care services under the general term of outpatient care.

Psychosocial Functioning and Health

A number of studies have shown that psychosocial functioning can have a profound impact on physical health, as well as influence health care use (e.g., Jenkins 1997; Kiecolt-Glaser and Newton 2001). For example, Fleet et al. (1996) noted that panic disorder patients may comprise up to 30% of patients seen for non-cardiac chest pain, and that these patients tend to catastrophize bodily sensations. Though there are a number of ways that psychosocial functioning can influence health care use, the most likely mechanism related to medical offset studies is the stress response. When stress is experienced, the immune system and the endocrine system react in a manner that regulates related hormones. Selye suggests that adrenal and pituitary defenses of the endocrine system continue to work even after a response to a stressor, which results in abnormal wear and tear on the body (as cited in Cockerham 1998). Jemmott and Locke argue that people who experience large amounts of life stress have poorer overall health, more upper respiratory tract diseases, more allergies, greater risk of hypertension, risk of sudden cardiac death, and higher incidence of coronary disease (as cited in Turner and Avison 1992).

Stress is often viewed as operating at the level of the individual. However, interpersonal relationships often operate as a direct source of stress that can lead to increased physical symptoms and health care use. Referring to Bowen’s work on the family emotional system, Searight (1997) asserts that related stressful events are “often followed by increased respiratory illness, diabetes, allergies, surgeries, and psychiatric disorders ranging from depression to full-blown psychoses” (p. 29). Similarly, higher incidences of illness and other health problems are found among those having experienced separation or divorce (Kiecolt-Glaser et al. 1997; Wertlieb et al. 1982). Emotional stressors, including negative affect, low social support, and clinical depression, also influence immune system functioning and contribute to a number of physical problems (Cohen and Herbert 1996).

While much of the research focuses on the source of health problems, the family system can also impact situations where the etiology of illness is unquestionably unrelated to relationship difficulties. For example, hostility and criticism may increase health care use in bipolar patients when associated with decreased adherence to medication regimens and decreased overall functioning (Clarkin et al. 1998).

Although there are many possible pathways, the evidence clearly supports the contention that psychosocial functioning can have a significant effect on various aspects of physical health. Thus, it follows that interventions designed to address deficits in psychosocial functioning could lead to improved health and also decrease consumption of health care services. This supposition has led many researchers to investigate the possibility of an offset effect for those who participate in therapy.

The Medical Offset Effect

Since the 1960's, medical offset studies have in fact revealed significant decreases in health care use after participation in individual therapy (e.g., Follette and Cummings 1967). In a review of 12 early offset studies, Jones and Vischi (1980) found that post-treatment decreases in health care use varied from 5% to 85%, with a median decrease of approximately 20%. Although the findings of Jones and Vischi are notable, the primary studies of interest were all conducted in what Cummings (1997) considers the "first generation" of offset studies, which represents the period of time before the arrival of managed care. During the "second generation" of offset studies, the efforts of managed care companies resulted in fewer behavioral health care services being available to consumers (Crane 1995). However, a meta-analysis of 91 offset studies found an average health care use decrease of 23.6% following individual therapy (Chiles et al. 1999). Chiles et al. (1999) also found that those in no-treatment comparison groups increased health care use by 9.16%. Thus, it appears that although managed care lead to decreased availability of behavioral care services, a medical offset effect is still evident (Law et al. 2003).

Though the offset effect is well established with individual therapy, much less attention has been given to the effect of MFT on health care use. One of the earliest studies showed a decrease of only 1.5% following participation in family therapy (Kessler et al. 1982). However, this study was conducted before the practice of MFT was well regulated, which may have lessened the potential for significant effects (Law and Crane 2000). Prior to the year 2000, only two other offset studies with a family focus were published. In these studies, Graves and Hastrup (1981) and Finney et al. (1991) investigated the effect of family therapy on children's health care use and found decreases of 36% and 28%, respectively. While these findings are remarkable, both studies focused on medical offset for children only, and questions about changes in the health care use of other family members were unanswered.

Law and Crane (2000) studied medical offset among a sample of MFT participants from a Health Maintenance Organization (HMO) and found a significant 21.5% decrease in health care use following therapy. When different sub-types of MFT were analyzed, Law and Crane found identified patients (IPs) decreased health care use by 9.5% and marital therapy participants decreased health care use by 21%. When Law et al. (2003) studied a sub-sample of high utilizers from the original Law and Crane HMO data they found a remarkable 53% decrease for MFT participants. Within the MFT sub-categories, they found that both IPs and marital therapy participants decreased health care use by 50%.

Another interesting finding from both Law and Crane (2000) and Law et al. (2003) was that even when family therapy participants were not the focus of therapy (i.e., not the IP),

health care use decreased following therapy. In the original Law and Crane study these participants decreased health care use by 30.5%. In the Law et al. study of high utilizers there was a 57% decrease from the pre- to post-intervention time periods. Similarly, Holder and Blose (1987) found that family members of those who participated in mental health therapy decreased health care costs by an average of \$21.10 per person, per month. Though these findings are intriguing, Goldberg et al. (1981) found no decrease for family members in a similar study.

Quantifying Health Care Use

There are a number of different areas of health care use that have been considered when studying medical offset. In the meta-analysis by Chiles et al. (1999), the most common measures were inpatient hospital days, doctor visits and cost estimates. Other measures included sick days from work and specialist visits. With few exceptions, different types of outpatient care are aggregated into larger categories that serve as the outcome variable. For example, a study by Follette and Cummings (1967) combined contact with outpatient facilities, laboratory reports, X-ray reports and days hospitalized into a single use score. Similarly, Law and Crane (2000) and Law et al. (2003) grouped outpatient care visits for illness, urgent care, health screenings, X-rays, and laboratory work.

While aggregating different types of use into broader categories is common in offset research, Kessler et al. (1982) note that a simple count of health care visits provides limited information. To address this concern, Kessler et al. calculated an “episode of care,” which grouped related visits together. Although measuring an episode of care represents an improvement over a single category, treating different visit types separately as much as possible is preferable since reasons for outpatient doctor visits may vary widely and may be differentially related to psychosocial factors. For example, with somatizing patients extensive diagnostic testing such as X-rays, blood tests, and CT scans may be conducted (Groth-Marnat and Edkins 1996; Koopmans et al. 1995). It is therefore reasonable to suppose that not all types of health care would show decreases following MFT, while others would decrease significantly.

Purpose of the Current Study

This study considers types of outpatient care separately to examine whether there are differing patterns of medical offset. Following Law et al. (2003), outpatient care in this study is defined as “health services rendered to individuals under their own cognizance, any time when they are not in a hospital or other health care institution” (Barker et al. 1995, p. 4). It is proposed that diverse types of outpatient care will be affected differently following participation in MFT. Accordingly, the first research question was, “Which of the different types of outpatient care (i.e., health screening, illness, laboratory work/X-ray, urgent care) decrease following participation in MFT or individual therapy?” The second research question sought to address the effect of therapy on different sub-categories of MFT (e.g., marital therapy) and asked, “What is the association between different sub-categories of MFT and the number of health care visits for each of the six types of outpatient care?” Finally, given that high utilizers of services account for a disproportionate amount of health care costs, it is important to determine how MFT and individual therapy affect the health care use of this group. Accordingly, the third research question

was, “For high utilizers, which of the different types of outpatient care decrease following participation in therapy?”

Method

This study utilized a within-subjects design, looking at various types of outpatient care use for three time periods that covered 18 months. The start date of therapy for each subject served as the primary marker for differentiating the three time periods. Consequently, the 18 months for each participant varied according to when subjects began therapy. The first time period (T1) consisted of a 6-month period before therapy began. The second time period (T2) consisted of a 6-month period after the initiation of therapy. The third time period (T3) represented a 6-month period that began 6 months after the initiation of therapy. Data collected in this study were archival, retrieved from the records of the HMO.

Subjects

The sample for the current study ($N = 292$) was originally used in the Crane et al. (2004), Law and Crane (2000), and Law et al. (2003) studies. Subjects belonged to FHP-Utah, which was based in California and was one of the five largest HMOs in the United States at the time of the study, with total enrollees exceeding 1.8 million. FHP Management Information Systems (MIS) furnished a list of all enrollees who had received psychotherapy. This list was broken down into groups according to type of therapy subjects received namely, individual therapy, marital therapy, or family therapy. A random sample from each of these groups was selected for study. The family therapy group was later broken down into two groups. The first group consisted of those who attended family therapy and who were seen as having the problem. This group was labeled “family therapy identified patient” (FTIP). The second group consisted of those who attended family therapy, but another family member was the identified patient. This group was labeled “family therapy other patient” (FTOP). The 292 subjects were drawn from a pool of 2,348 who attended individual therapy (873 male, 1,475 female), 240 who attended marital therapy (136 males, 104 females), and 753 who attended family therapy (321 male, 432 female). As noted previously, the family therapy group was divided according to whether the subject was the identified patient. This categorization was based upon a review of case notes on who attended and how the problem was defined.

Inclusionary Criteria

Subjects were excluded if they were not members of FHP-Utah for at least 6 months prior to and 12 months after the initial therapy session. Additionally, each subject had to be enrolled in a health plan where they received all care through the staff model, as opposed to working through Preferred Providers Organizations (PPOs) or Independent Practice Associations (IPAs). Doing so enabled access to all health care information for the 18 months considered in this study. Type of health plan and period of enrollment were verified by examining the subjects’ medical files and by FHP-Utah’s Enrollment Administration. Another area of exclusion considered the type of therapy the subject received. In an effort to examine reduction in medical use by mode of therapy, subjects had to have attended one mode of therapy a minimum of three times during T2. In addition,

participation in that mode of therapy had to be at least three times greater than in any other mode of therapy. For example, if a female patient had attended therapy with her spouse for a marital problem six times, and attended two other times where she met alone with the therapist, the required ratio of 3:1 would be satisfied and that subject would be included in the study. Had she attended six marital and three individual sessions, the 3:1 ratio would not be satisfied and the subject would be excluded from the study.

Therapists

Professionals who conducted therapy were professionally licensed and full time employees of FHP, and included two Psychologists, four Marriage and Family Therapists, and thirteen Social Workers.

Analysis

In the interests of a parsimonious presentation of results, only analyses for pre-therapy (T1) and post-therapy (T3) are considered.

Research Question 1

“Which of the different types of outpatient care (i.e., health screening, illness, laboratory work/X-ray, urgent care) decrease following participation in MFT or individual therapy?” To answer the first question, two time periods (pre- and post-therapy) for each of the types of outpatient care visits were compared. One-way repeated measures analysis of variance (ANOVA) was used in this analysis. A separate analysis was conducted for each combination of time period and outpatient care category with each of the two therapy types (i.e., individual therapy and MFT).

Research Question 2

“What is the association between different sub-categories of MFT and the number of health care visits for each of the six types of outpatient care?” To answer this question a one-way repeated measures ANOVA was used to compare changes across the two time periods (i.e., T1 and T3). As with question two, a one-way repeated measures ANOVA was conducted for each combination of time period and outpatient care category for the different MFT sub-categories (i.e., marital therapy, FTIP, FTOP).

Research Question 3

“For high utilizers of health care, which of the different types of outpatient care decrease following participation in therapy?” To address the third research question the same analytic processes used to answer questions one and two were repeated. However, in this analysis only those considered high utilizers (only those with four or more visits during T1) were included, consistent with Law et al. (2003). Four visits was chosen since it represents one standard deviation above the mean number of health care visits for the comparison group used in the original Law and Crane (2000) study. When subjects with less than four visits were removed, there were 22 subjects left in the individual therapy group, 43 in the MFT group, 15 in the marital therapy group, 12 in the FTIP group, and 16 in the FTOP group.

Results

Research Question 1

“Which of the different types of outpatient care (i.e., health screening, illness, laboratory work/X-ray, urgent care) decrease following participation in MFT or individual therapy?” To answer the question for MFT participants, all types of conjoint therapy were combined to form the MFT group.

MFT Total Group

Urgent care decreased significantly from .43 visits at T1 to .23 visits at T3, which represents a 47% decrease. When T1 and T3 were compared, the change was significant ($N = 172$, $SD = .52$, $F = 1.18$, $p < .05$).

Individual Therapy Group

Those who participated in individual therapy showed no changes in health care categories between the pre-intervention (T1) and post-intervention (T3) time periods.

Research Question 2

“What is the association between different sub-types of MFT and the number of health care visits for each of the four types of outpatient care?” In this analysis the combined MFT group was broken down according to whether the participant received marital or family therapy. As mentioned, the family therapy group was further broken down into FTIP and FTOP groups.

Marital Therapy Group

For health screening, a decrease of .35 visits at T1 to .15 visits at T3 was observed, which represents a 57% decrease ($n = 52$, $F = 3.06$, $SD = .50$). However, the difference between T1 and T3 was not significant

FTIP Group

There were no changes in health care use when considering pre- and post-treatment.

FTOP Group

For the FTOP group ($n = 60$), urgent care decreased from the pre-intervention period (T1) ($M = .47$, $SD = .89$) to the post-intervention period (T3) ($M = .20$, $SD = .48$). Urgent care use decreased by .27 visits for the FTOP group, which represents a 58% decrease ($n = 60$, $SD = 20$, $F = 4.69$, $p < .05$).

Research Question 3

“For high utilizers of health care, which of the different types of outpatient care decrease following participation in therapy?”

Table 1 Change in mean number of different types of outpatient care visits across treatment groups for high utilizers

	Health screening		Visit type				Urgent care	
			Time 1— <i>M</i> (SD)		<i>F</i> % change			
	Time 3— <i>M</i> (SD)		Illness	Laboratory/X-ray				
MFT	.44 (.63)	6.21*	2.79 (2.09)	6.92*	2.65 (2.16)	14.46*	.86 (1.37)	10.89*
<i>n</i> = 43	.16 (.43)	−64%	1.72 (2.00)	−38%	1.16 (1.51)	−56%	.19 (.45)	−78%
Individual	.41 (.67)	.68	–	–	–	–	–	–
<i>n</i> = 22	.27 (.46)	−34%	–	–	–	–	–	–
Marital	.53 (.74)	4.42	–	–	2.00 (1.25)	5.32*	–	–
<i>n</i> = 15	.13 (.35)	−75%	–	–	.93 (1.39)	−54%	–	–
FTIP	–	–	2.17 (1.80)	1.32	2.08 (1.17)	5.01*	.67 (.78)	6.49*
<i>n</i> = 12	–	–	1.42 (1.93)	−35%	1.00 (1.13)	−52%	.08 (.29)	−88%
FTOP	–	–	3.38 (2.31)	3.33	3.69 (2.96)	6.10*	.87 (1.36)	5.40*
<i>n</i> = 16	–	–	1.88 (2.19)	−44%	1.50 (1.86)	−59%	.13 (.34)	−85%

* $p < .05$

MFT Total Group

For those who participated in MFT, significant health care use decreases were seen in visits for health screening, illness, laboratory/X-ray, and urgent care (Table 1). Each of the four types of outpatient care showed significant decreases from T1 to T3. Under health screening, the average number of visits at T1 was .44, while at T3 the average number was .16, representing a 64% decrease. Under visits for illness, there was a decrease from 2.79 (SD = 2.09) visits at T1 to 1.72 (SD = 1.72) visits at T3, which represents a 38% decrease ($n = 43$, $F = 6.21$, $p < .05$). For laboratory/X-rays, a significant ($n = 43$, $F = 14.46$, $p < .05$), 56% decrease was found of 2.65 (SD = 2.16) visits at T1 to 1.16 (SD = 1.16) visits at T3. Finally, urgent care decreased 78% ($n = 43$, $F = 10.89$, $p < .05$) from .86 (SD = 1.37) visits during T1 to .19 (SD = .45) visits during T3.

Individual Therapy Group

Participation in individual therapy was not associated with decreases in the different types of health care use.

Marital Therapy Group

Decreases were found for health screening and laboratory/X-ray visits. The mean number of visits at T1 for health screening was .53, compared to .13 visits at T3, a nonsignificant 75% decrease. For laboratory/X-ray visits, a decrease was found from 2.00 (SD = 1.25) visits during T1 to .93 (SD .93) visits during T3, representing a statistically significant 54% decrease ($n = 15$, $F = 5.32$, $p < .05$).

FTIP Group

Decreases were found for illness, laboratory/X-ray, and urgent care visits. Laboratory/X-ray visits decreased from T1 ($M = 2.08$, $SD = 1.17$) to T3 ($M = 1.00$, $SD = 1.13$) this 52% decrease was statistically significant ($n = 12$, $F = 5.01$, $p < .05$).

The other significant decrease was for urgent care visits. A decrease from .67 ($SD = 1.36$) visits during T1 to .08 visits ($SD .13$) during T3, representing an 88% decrease ($n = 12$, $F = 5.01$, $p < .05$).

FTOP Group

Decreases were found for both laboratory/X-ray, and urgent care visits. For laboratory/X-ray, visits a 59% decrease was found between T1 and T3 ($n = 16$, $F = 6.10$, $p < .05$). Finally, for urgent care, an 85% decrease was found of .87 visits during T1 to .13 visits at T3 ($n = 16$, $F = 5.40$, $p < .05$).

Discussion

The results of the current study provide additional insight into the medical offset effect associated with MFT. When the pre- to post-intervention periods were compared for the complete sample, noteworthy results were found. For example, no significant decreases were found with individual therapy under any of the different types of outpatient care. This is surprising given the extensive amount of research that supports medical offset with individual therapy. On the other hand, there was a significant 47% decrease in urgent care visits for those who participated in MFT. Interestingly, the results also revealed a significant 58% decrease in urgent care visits for those who were not even the focus of therapeutic intervention. When Law and Crane (2000) investigated decreases in health care use (using combined outpatient care visits), they did not find a significant decrease for participants who were not the identified patient.

Urgent care visits are similar to emergency room visits in that help is sought for symptoms deemed too urgent to wait for an appointment. However, symptoms that lead to urgent care visits are not severe enough to necessitate emergency room admittance. It is interesting to note that many symptoms shown to be related to stress could precipitate urgent care use. Wayne et al. (2003) found that 34% of the complaints reported by patients seeking urgent care occurred within a category of concerns that included headaches, abdominal pain, and chest pain as three of the most common problems. Other studies have shown that these conditions may be affected by stress. For example, Garcia-Vega and Fernandez-Rodriguez (2004) found that when stress management was incorporated into the treatment of Crohn's disease, patients experienced significantly less abdominal pain.

The primacy of family relationships in our lives suggests that stress experienced by one family member may in turn act as a noteworthy source of stress for others in the family (Pearlin and Turner 1987). With regard to the 58% decrease observed for those who were not the focus of therapy, it may be that the stresses of having a close family member experiencing psychosocial difficulties lead to increased physical complaints and/or medical concerns. Accordingly, stress experienced by parents or siblings consequent to problems shown by another family member may have affected their own help seeking behavior (i.e., urgent care use). Therapy may have provided support to parents and siblings, or provided a sense of control over the problem that resulted in decreased use of urgent care services.

Though this is an interesting possibility, unfortunately it is impossible to test the hypothesis with the data used in this study.

When the sample was limited to high utilizers of health care services, pre- to post-intervention changes were found for various types of outpatient care. For the combined MFT group, significant decreases were found for MFT participants in all types of health care use (i.e., health screenings, illness, laboratory/X-ray, urgent care). As was found with the complete sample, no significant decreases were observed for the individual therapy group across different types of outpatient care.

The findings for high utilizers may offer additional support to the viewpoint that stress precipitates use of the health care services that were found to decrease. For example, stress related to marital conflict has been shown to affect immune system functioning, which can then lead to increased susceptibility to illness (Kiecolt-Glaser and Newton 2001). Accordingly, it may be that reduction of relationship stress through participation in MFT could result in fewer physical illnesses. In addition, as mentioned previously, symptoms related to stress may contribute to urgent care use. Again speaking to the role of the family system, it is important to note that for high utilizers both the FTIP and FTOP groups showed significant reductions in urgent care visits. The FTIP group reduced urgent care visits by 88%, while the FTOP group reduced urgent care visits by 85%. Thus, for high utilizers family therapy appears to have had an especially strong effect on use of urgent care services.

The pattern of decreases for high utilizers also can be seen as potentially providing support to the position that somatization contributes to excessive health care use. It is interesting to note that significant decreases were found for high utilizers in laboratory/X-ray visits with the MFT group, as well as for each of the sub-categories of MFT (i.e., marital, FTIP, FTOP). Marital therapy showed a 54% decrease, while the FTIP and FTOP groups decreased use by 52% and 59%, respectively. Laboratory and X-ray services are typically used in the process of identifying specific health problems, as are health screenings, which also decreased for the MFT group. These services may have been delivered to identify the cause of seemingly unexplainable somatic symptoms, although it is also possible that the services were provided in an attempt to identify the source of illness-related symptoms (e.g., sore throat). Unfortunately, lack of relevant measures makes it impossible to determine the effect of stress and somatization on service use in the present study.

Interestingly, urgent care decreased significantly across all subtypes of family therapy, but not couple therapy. The possibility exists that when families are under stress, they may seek health care to alleviate their concerns. However, this does not appear to be the case for couples. Further research is currently underway to try to understand the mechanisms that influence health care use in couples.

Limitation and Recommendations

Though the findings of the current study support the contention that psychosocial intervention may have a greater affect on some types of services than on others, limitations also warrant attention. First, the study relied on outpatient care as the only outcome variable. As noted by Law and Crane (2000) and Law et al. (2003), it may be more fruitful to include measures of hospital nights and emergency room visits since associated costs are often greater. Second, data relating to sample demographics and psychosocial functioning was limited, making it difficult to determine the effect of variables that may be related to patterns of service use (e.g., somatization, income, health status, etc.). Third, although we

found some interesting results, the small numbers of subjects in some sub-types of therapy among the high utilizers undoubtedly make our findings quite tentative. Finally, no information regarding the cost of services was available. Consequently, it was impossible to determine whether observed decreases resulted in overall cost savings as well.

Future studies should include the issues of health care costs in the study. Although studies focusing on individual therapy have incorporated cost analysis, no studies are known to have done so for MFT. Cost analysis for MFT services should include savings that result from reductions in health care use by family members who are not the identified patient. The finding that different types of outpatient care decreased significantly for those in the FTOP group supports this proposition. Finally, future studies should attempt to replicate the results of the current study with larger sample sizes and in different settings or health care systems (e.g., Medicare). By so doing, researchers will be able to make stronger conclusions about the effect of MFT on health care use in general, as well as on specific types of care.

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