The cost-effectiveness of family therapy: a summary and progress report

D. Russell Crane

This paper provides a summary of the cost-effectiveness research for family therapy. Data were available from four different sources in the United States: (1) a health maintenance organization with 180,000 subscribers; (2) the Medicaid system of the State of Kansas; (3) CIGNA Behavioral Health, a division of a health insurance company with nine million subscribers; and (4) a family therapy training clinic. Results suggest that family therapy reduces the number of healthcare visits, especially for high utilizers. The studies suggest that including family therapy as a treatment option does not significantly increase healthcare costs.

Introduction

Family therapy has been shown to be an effective form of psychotherapy for a number of mental health disorders and concerns (e.g. Carr, 2009a, 2009b; Sprenkle, 2002; Stratton, 2005). However, efficacy research, which emphasizes controlled experimental and clinical trials under specific conditions, does not adequately address the effectiveness of family therapy in real-world situations. While treatments that are found to be effective in the lab, under ideal and carefully controlled conditions, may reveal powerful effects, the replication of the same treatments in applied settings is more difficult. In addition, there are relatively few known studies on the costs of providing family therapy in real-life conditions.

Although the efficacy evidence base for family therapy is good, few studies have addressed the issue of the costs of including this service as a treatment option in healthcare and mental healthcare systems. In an effort to address this issue, a number of effectiveness studies have been conducted to investigate the economic impact of using family
therapy in existing healthcare systems (e.g. Crane et al., 2005; Law and Crane, 2000; Law et al., 2003). Effectiveness research is concerned with the effect of real services to real people by real practitioners; in other words, the effect of mental health services conducted under the same conditions in which most therapy is provided in everyday practice.

The advantage of effectiveness studies is that real people, under real service conditions, are the topic of interest. The main disadvantages of these types of studies are that they are inherently difficult to control since the researchers must investigate conditions as they naturally exist and little experimental control is possible. In addition, owing to the difficulty in establishing experimental control, causality and cause-and-effect relationships cannot be established. Interpretations, therefore, must be cautious and discuss associations and relationships between variables, not cause and effect.

The data used for the effectiveness studies come from four sources: (1) a large western US health maintenance organization (HMO) with 180,000 subscribers; (2) the Medicaid system of the State of Kansas; (3) CIGNA Behavioral Health, the behavioural health division of a large US health insurance company with nine million participants; and (4) a family therapy training clinic at a large US university.

Health Maintenance Organization (HMO)

The first studies addressed the possible ‘medical offset’ of marital/couples and family therapy provided in a large HMO system. A ‘medical offset’ occurs when people reduce their use of medical services following some type of psychotherapy or behavioural health intervention. The HMO system that housed the first studies on family therapy–medical use offset was typical of many healthcare systems in the United States. In this type of system, employers and employees contract with the HMO to provide all of their healthcare. The cost of healthcare is shared by both employers and employees for a fixed price per month.

In this HMO, providers from almost all health and mental health disciplines were employed by the HMO to provide care to those enrolled in the plans. All providers are licensed by the state government to provide health or mental healthcare in the state in which the care is given.

Data from this HMO, in the form of paper medical charts, were available for all individuals, couples and families who received mental health services. Healthcare records for the same individuals were
collected for six months before, during and after therapy. These studies used outpatient care as the dependent variable. Outpatient visits were defined as medical care for illness, injury, psychotropic medication management, health screening, acute care, laboratory work or x-rays. Emergency room, prescription and hospitalization data were not available.

Participants were randomly selected from those who had used individual, marital/couple or family therapy. In order to assure distinct groups for comparison purposes, the ratio of the predominant type of therapy (individual, marital/couple or family therapy) to other types of therapy needed to be at least 3:1.

Five different types of therapy were studied: (1) marital/couples therapy; (2) family therapy identified patient (FTIP) (identified as the ‘reason’ the family is seeking therapy); (3) family therapy other patient (FTOP) (participants in family therapy who were not the identified patients); (4) those who received individual therapy; and (5) a comparison group of HMO subscribers who had not received any form of psychotherapy.

Study one (Law and Crane, 2000). In this study, the medical use rates of randomly selected groups who received different types of therapy were compared for six months before therapy, six months after therapy began, and at one year after therapy. Results suggest that family therapy was associated with a significant decrease in healthcare use at one year after therapy began. Overall, marital/couple and family therapy participants reduced their healthcare use by 21 per cent after therapy. There was also a 30 per cent decrease in healthcare use for FTOP patients, but this difference did not reach a level of statistical significance. These family therapy participants, who were not the identified patient, showed substantial decreases in their healthcare use, although given the lack of statistical significance further research regarding this possible outcome needs to be conducted (Table 1).

Study two (Law et al., 2003). ‘High utilizers’ (n = 65) (four or more medical visits in the six-month period before therapy) were selected from the study one sample. Analysis of the healthcare use rates of these individuals was unable to differentiate chronic health conditions from those who might be experiencing some form of somatization of their emotional concerns. Consequently, the results undoubtedly contain persons with both types of concerns.
Results when comparing pre- and follow-up healthcare use rates for high utilizers demonstrate dramatic decreases in healthcare use for all types of therapy ranging from 48 per cent for individual therapy participants to 57 per cent for family therapy ‘other’ patients involved in family therapy. In addition, reductions for recipients of couples therapy and family therapy as the identified patient were both 50 per cent. Further research should be done that focuses on this type of client (Table 2).

Study three (Crane et al., 2004). Study three explored the role of professional discipline, age, amount of experience and gender of therapists in producing a medical offset. The results suggested that psychotherapy in general, rather than professional training or therapist characteristics, is responsible for reductions in healthcare use with all providers, regardless of training, age, gender or experience, producing the same amount of medical use offset.

Study four (Crane and Christenson, 2008). The final study sought to further investigate the ‘offset effect’ by breaking down the dependent variable into different types of outpatient care, each of which was considered separately. A healthcare visit was classified as ‘acute care’

### TABLE 1 Pre- and post-therapy healthcare use rates in an HMO

<table>
<thead>
<tr>
<th>Type of therapy</th>
<th>N of subjects</th>
<th>% change in healthcare</th>
</tr>
</thead>
<tbody>
<tr>
<td>MFT combined</td>
<td>272</td>
<td>–21.5*</td>
</tr>
<tr>
<td>Marital/couple</td>
<td>52</td>
<td>–21</td>
</tr>
<tr>
<td>FTIP</td>
<td>60</td>
<td>–9.5</td>
</tr>
<tr>
<td>FTOP</td>
<td>60</td>
<td>–30.5</td>
</tr>
<tr>
<td>Individual</td>
<td>60</td>
<td>–10</td>
</tr>
<tr>
<td>Comparison group</td>
<td>60</td>
<td>+12.2</td>
</tr>
</tbody>
</table>

*Note:* *= p < .05.

### TABLE 2 Pre- and post-therapy healthcare use rates for high users

<table>
<thead>
<tr>
<th>Type of therapy</th>
<th>N of subjects</th>
<th>% change in healthcare</th>
</tr>
</thead>
<tbody>
<tr>
<td>MFT combined</td>
<td>43</td>
<td>–53*</td>
</tr>
<tr>
<td>Marital/couple</td>
<td>15</td>
<td>–50*</td>
</tr>
<tr>
<td>FTIP</td>
<td>12</td>
<td>–50*</td>
</tr>
<tr>
<td>FTOP</td>
<td>16</td>
<td>–57*</td>
</tr>
<tr>
<td>Individual</td>
<td>22</td>
<td>–48*</td>
</tr>
</tbody>
</table>

*Note:* *= p < .05.
when the service was not part of regularly scheduled care, nor was it an emergency. Acute care can have been for common illnesses or sudden crises in the system that results in a request for a medical appointment.

Acute care visits showed a significant 47 per cent reduction from pre- to post-intervention. Reductions were more prominent for high utilizers and were found across a number of different types of outpatient care. High utilizers who participated in family therapy showed significant reductions of 68 per cent for health screening visits, 38 per cent for illness visits, 56 per cent for laboratory/x-ray visits, and 78 per cent for acute care visits. These results suggest that families and individuals use acute care services more frequently before therapy than after, possibly as a response to stress in the family system (pre-treatment) that have been ameliorated (post-treatment).

Overall, data from this HMO suggest that MFT treatments reduce healthcare use in general with large reductions for high utilizers.

Medicaid system in Kansas

The second naturally occurring healthcare system was the Medicaid system of the State of Kansas. Medicaid is a federally funded healthcare system for poor children, children with disabilities and some adults with disabilities. It is the largest single healthcare provider for children in the United States and is administered separately within each state.

Study one (Crane et al., 2005). This study was focused on conduct-disordered youth. Retrospective healthcare costs data for almost 4000 multi-ethnic youth diagnosed as ‘conduct disordered’ were identified and tracked over a thirty-month period. The total costs of all healthcare were available for analysis.

Data were available for 3753 youth. Overall, 3086 youth received care that included individual therapy (and no family therapy), 503 received in-home family therapy, and 164 others received in-office family therapy. Healthcare costs for a period of two-and-a-half years after therapy were available for analysis.

The largest group \((n = 3086)\) received a variety of services, but no family therapy. In this group, 81 per cent were male, 19 per cent were female, with an average age of 14.4 years (range 5–18). Ethnically, they were 73 per cent Caucasian, 18 per cent African American, 7 per cent Hispanic, and 1 per cent Native American and Asian youth.

© 2008 The Author. Journal compilation © 2008 The Association for Family Therapy and Systemic Practice
The next largest group \((n = 503)\) were individuals who received a wide range of services but also received family therapy as an in-home service. For these youth, the mean age was 14.7 (range 5–18) with 91 per cent male and 9 per cent female. Ethnically, there were approximately 21 per cent African American and 79 per cent Caucasian.

The third group were youth \((n = 164)\) who received a range of services similar to those received for all youth, but who also received in-office family therapy as part of treatment. Those who received in-office family therapy included more males (84 per cent) and fewer females (16 per cent), but were essentially the same in average age (14.2 years, range 7–18) than the group that received no family therapy. Ethnicity included Caucasians (68 per cent), African Americans (28 per cent) and fewer Hispanics (4 per cent), with no Native American or Asian youth. There were no statistically significant differences between the demographic descriptions of the youth in the three groups.

The average cost of healthcare for youth receiving no family therapy was $16,260. For those receiving in-office family therapy, the average cost was $11,116. Youth who received in-office family therapy received $5,144 (32 per cent) less care on average than those receiving only individual therapy. Those who received in-home family therapy averaged $1,622 over the follow-up the period. Those who received in-home family therapy were least expensive of all, averaging at least 85 per cent less than any form of in-office therapy and 90 per cent less than those who had no family therapy (Table 3).

Results from the Medicaid system data suggest that including family therapy in the treatment programme for adolescents does not increase the costs of healthcare. Surprisingly, in-home family therapy was associated with youth who used fewer medical services than either of the other two groups.
Overall, the results suggest that family involvement does not increase total healthcare costs. Indeed, there may be a reduction in total healthcare costs when families are involved in care.

**CIGNA behavioural health**

The behavioural health division of a large national US health insurance company with nine million subscribers (and thirty-seven unique healthcare plans) participated in the most ambitious effectiveness study to date. Psychotherapy costs data for all billed mental health disorders over a four-year period were extracted. Psychotherapy visits for over 490,000 unique patients across four years were available for analysis. Table 4 presents the results of the outcomes by the mode of therapy provided.

In this presentation, Episodes of Care (EoC) is the main dependent variable. EoC are defined by CIGNA as a series of services for the same patient that is continuous; it began with the first psychotherapy service and ended after the individual had no psychotherapy claims for ninety days or more. The number of sessions in the first EoC per patient in the dataset ranged from one to 394 (M = 6.95, SD = 8.91).

For the purposes of the current investigation, success and recidivism are calculated from the first EoC. *Success* is defined as patients who used only one EoC in the time frame of the study. *Recidivism* is defined as the same patient who returned to therapy for a second EoC.

**TABLE 4 Cost and outcome of the first EoC by individual vs. family vs. mixed therapy**

<table>
<thead>
<tr>
<th>Therapy type</th>
<th>Cases in first EoC</th>
<th>M of sessions in first EoC</th>
<th>Cost of first EoC ($)</th>
<th>% Success</th>
<th>% Recidivism</th>
<th>Cost-effectiveness ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual therapy</td>
<td>365,986</td>
<td>6.80*</td>
<td>333.63</td>
<td>85.1</td>
<td>14.9*</td>
<td>384.85</td>
</tr>
<tr>
<td></td>
<td>(SD = 8.91)</td>
<td>(SD = 498.63)</td>
<td></td>
<td></td>
<td></td>
<td>(SD = 575.47)</td>
</tr>
<tr>
<td>Family therapy</td>
<td>68,331</td>
<td>4.44*</td>
<td>216.30</td>
<td>84.6</td>
<td>15.4*</td>
<td>249.11</td>
</tr>
<tr>
<td></td>
<td>(SD = 5.01)</td>
<td>(SD = 270.79)</td>
<td></td>
<td></td>
<td></td>
<td>(SD = 312.05)</td>
</tr>
<tr>
<td>Mixed therapy</td>
<td>55,332</td>
<td>11.04*</td>
<td>535.38</td>
<td>82.6</td>
<td>17.6*</td>
<td>617.32</td>
</tr>
<tr>
<td></td>
<td>(SD = 11.04)</td>
<td>(SD = 678.81)</td>
<td></td>
<td></td>
<td></td>
<td>(SD = 588.08)</td>
</tr>
<tr>
<td>Industry average</td>
<td></td>
<td>6.95</td>
<td>340.0</td>
<td>84.7</td>
<td>15.3</td>
<td>392.18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(SD = 491.56)</td>
<td></td>
<td></td>
<td></td>
<td>(SD = 567.29)</td>
</tr>
</tbody>
</table>

*Notes*  
EoC – Episode of Care.

*p < .000.

© 2008 The Author. Journal compilation © 2008 The Association for Family Therapy and Systemic Practice
(or more) with the same provider type during the study. Finally, an estimation of the cost-effectiveness for each mode of therapy was computed as: estimated cost-effectiveness = 1st EoC average cost + (1st EoC * recidivism rate). This equation helps answer the question ‘What does psychotherapy cost per patient taking into consideration the relative success and recidivism rates associated with each modality of care?’ It takes into consideration the average number of sessions in the first EoC, the cost of providing the first EoC and the outcome of care in the first EoC (as measured by recidivism rates). Results for this question (Table 4) demonstrate that, overall (while controlling for gender, diagnosis and region of the country), patients who received only family therapy required the fewest number of treatment sessions. The next most effective form of therapy was individual therapy alone. The most expensive was care that combined both individual and family therapy. Interestingly, outcomes were overwhelmingly successful with 85 per cent of patients requiring only EoC (Crane and Payne, in review).

Family Therapy Training Clinic

This clinic is housed at a large western US university. Therapists were trainees in Masters and Doctoral programmes in marriage and family therapy, clinical psychology and social work. Families who sought mental health services at a training clinic were assessed for three time periods that included six months prior to initiating therapy, six months after therapy had begun, and twelve months after the initiation of therapy.

A final sample of fifty-six persons (Christenson et al., in preparation) provided data for all three time periods. Slightly more than half of the participants were women (54 per cent) and 96 per cent of the sample indicated that they were Caucasian. The average yearly income was $39,866 (SD = $27,076) and ranged from $2,500 to more than $100,000 a year, indicating that participants came from diverse income brackets. In terms of education and work, participants had on average received 15.95 years of schooling (SD = 2.05) and worked an average of 25.47 hours per week (SD = 19.86). The average number of sessions that participants completed was 11.89 (SD = 7.31). When healthcare use during the pre-intervention period (T1) was compared to six months after therapy began (T2) there was a significant 44 per cent decrease from an average of 2.00 visits to 1.13 visits, F(1, 46) = 4.66, p < .05. From T2 to one year after intake (T3) there was a slight increase of 19 per cent. As a result of this ‘rebound’,
the total decrease from T1 (M = 2.00) to T3 (M = 1.34) was found to be a non-significant 33 per cent.

Overall, treatment provided by family therapy trainees was associated with decreased healthcare use when comparing pre-treatment to six months after treatment. However, the decrease was not significant one year after treatment began.

Summary and conclusions

The efficacy and effectiveness research related to family therapy has demonstrated good experimental outcomes. In addition, reductions in healthcare use have been documented, especially for high utilizers of healthcare who have participated in family therapy. Furthermore, including family therapy in healthcare programmes does not seem to increase overall healthcare costs. If these results are replicated in additional studies, healthcare managers may wish to allow family therapy to be provided to those who request that service, or who may benefit from this form of therapy.

Of course, a number of limitations are related to the effectiveness research presented here. First, cause-and-effect relationships cannot be established, only true experimental designs can establish such relationships. Fortunately, the efficacy research presented has demonstrated cause-and-effect relationships for experimental forms of couples and family therapy.

Second, for effectiveness research, direct comparisons between groups who received different forms of therapy, or received treatment from different providers, are not appropriate because the different groups may be quite different from the beginning. Some other factor other than the presence or absence of family therapy may well be responsible for the changes noted. There are undoubtedly pre-existing differences between individuals and families who received different forms of treatment, and from different providers. However, these results are interesting and suggestive of effectiveness when family therapy is applied to different real-world situations and that healthcare costs will probably not increase as a result of offering family therapy.

In terms of the efficacy research, experimental design with random assignment to groups makes direct comparisons possible. In most cases, family therapy has produced results better than no treatment control groups and results as good as, if not better than other forms of psychotherapy.
Cross-cultural implications

Although the work reviewed here is done entirely in the United States, the results are likely to be applicable to other types of healthcare systems such as those found in the UK and Europe. In some ways, the systems considered here are quite similar. For example, the systems share a similar structure with general health and mental health services managed with a central administration. In addition, they are the healthcare provider for large numbers of people. For example, in the greater London region, the NHS is responsible for approximately eighteen million people. The CIGNA behavioural health system covers about nine million people across the United States. These nine million represent a healthcare system that is approximately the same size as Scotland, Wales and Northern Ireland combined. Other comparisons are the greater Paris area with about 9.6 million persons or Berlin where about 4.5 million people reside. Another similarity is the centralized management of healthcare services. Policy-makers make decisions about what services will and will not be included as part of the healthcare service being offered either to the public or to subscribers and employers. Finally, the financing of healthcare is centralized with a third party which pays for services whether that be the administrative arm of CIGNA or taxpayers who support the NHS.

Certainly there are a substantial number of unique features of the differing healthcare systems that operate in developed countries. For example, one main difference in these systems is the mechanisms of payment for healthcare services. In the current system, patients and employers combine to pay for healthcare services. In many European healthcare systems, payments are tax-based and come from various governmental bodies including healthcare and social services.

Nevertheless, there seem to be some basic similarities which suggest that results from the United States might be applicable to other healthcare systems. However, replication of these results in other countries would be the best answer to the question of cross-cultural comparability.

Clinical implications

The main implications for clinicians are related to advocacy and policy. Healthcare policies are set by a number of different types of people acting in different roles. Often, they seek input from senior and other
managers, payers, users and respected providers. Policy-makers may be interested in the information that this research provides, but are less likely to spend time considering it unless consumers or respected providers bring it to their attention.

One can only imagine the amount of information related to all forms of medical care that policy-makers, managers and payers must process on a regular basis. It might be possible, but it is probably unlikely that they are updated regularly on the effectiveness research on the costs of family therapy. It seems that the best mechanism of providing information to influential policy-makers is through providers and users of the service.

Another group of highly influential people who may want to be educated are past users of family therapy services. The purpose is not to exploit families for selfish purposes. Rather, it is to give a voice to those whom mental health services policies are designed to benefit, especially when families have sought, received and benefited from family therapy services that were not paid for by their healthcare plans – plans that they have helped pay for, either directly through payroll deductions, or indirectly through taxation. It would seem that families should be able to receive family therapy services if they choose, especially when mental health services are already available in their healthcare plans. When mental health services are not available through healthcare plans, the positive cost–benefit relationship may influence policy-makers to provide therapy for those who need it, with possible lower costs for treating physical ailments.

Clinicians who wish to advocate for the inclusion of family therapy in general can do so themselves, but it is also possible to encourage families with whom they work to do the same. Certainly such encouragement should occur only after treatment and without using coercive or unethical methods. Policy-makers do listen to families who wish to come forward and share their stories.

In addition, few large health service providers or organizations are able to do quality-assurance surveys of their subscribers for a service they do not yet cover. Hence they are unlikely to uncover the value to users of family therapy services in their regular quality-assurance processes.

In summary, given that family therapy has been shown to be effective in numerous reviews and that including it in healthcare systems does not seem to increase healthcare costs, now may be the time to begin to educate policy-makers and to begin to offer this form of care to families who want or need it.

© 2008 The Author. Journal compilation © 2008 The Association for Family Therapy and Systemic Practice