

# The Effects of Long-Term Psychoanalytic Treatment on Healthcare Utilization and Work Impairment and Their Associated Costs

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Long-term psychoanalytic treatment is perceived as an expensive ambulatory treatment for mental illnesses. However, there are indications that psychoanalytic treatment can result in cost savings in the long term. In this study, we investigated the effects of long-term psychoanalytic treatment on healthcare utilization and work impairment and calculated the associated societal costs. We assessed healthcare utilization and work impairment of patients before, during, and after long-term psychoanalytic treatment ( $N = 231$ ). Our results show that the difference in total costs associated with healthcare utilization and work impairment between pre- and post-treatment was €2,444 (U.S.\$3,070 using average exchange rates for 2006, the year for which these data were calculated) per person per year. Two years after treatment termination, these cost savings had increased to €3,632 (\$4,563) per person per year. This indicates that we can expect decreased consumption of medical care and higher work productivity right after psychoanalytic treatment, but also that long-term psychoanalytic treatment can generate economical benefits in the long run. However, we cannot conclude that all invested costs will be earned back eventually. More research is needed on the cost-effectiveness of psychoanalytic treatment. (*Journal of Psychiatric Practice* 2010;16:209–216)

KEY WORDS: healthcare utilization, work impairment, costs, psychoanalytic treatment, long-term, cost-offset

Despite the considerable and growing body of research about the clinical effectiveness of long-term psychoanalytic treatment,<sup>1,2</sup> relatively little attention has been paid to economic evaluations, particularly with reference to the broader range of societal effects. If untreated, persons with personality disorders and/or depression often put a heavy economic burden on the general healthcare system.<sup>3–7</sup> A recent study showed that patients applying for long-term psychoanalytic treatment present with substantial levels of chronic depressive symptoms, interpersonal difficulties, and personality pathology.<sup>8,9</sup> Long-term psychoanalytic treatments such as psychoanalysis and psychoanalytic psychotherapy are perceived as expensive ambulatory treatments for mental illnesses, because they often cover a relatively long period of time. These treatments are still covered by national health insurance plans in Canada, Australia, and several European countries, including the Netherlands. When psychoanalysis is no longer part of the national health insurance plan, its availability tends to become limited as has happened in the United Kingdom. However, when it is still part of the national health insurance plan, clinicians are pushed to make deci-

sions about inclusion that in effect constitute rationing.<sup>10</sup> In other words, these treatments are available only to patients for whom there are strong indications that such treatment is needed. For instance, in the Netherlands healthcare professionals follow government-approved guidelines for treatment assignment to long-term psychoanalytic treatments.<sup>11</sup> These guidelines state that psychoanalytic treatment is indicated for patients with complex emotional disorders and/or chronic mood disorders and/or personal-

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ity pathology and that patients' suitability for such treatment can only be determined after multiple intake sessions, screening questionnaires, and a comprehensive personality assessment. Economic considerations encourage policy makers and health insurance companies to fund only evidence-based treatments that place a minimal burden on patients and that can be provided in the shortest possible period of time. Given that background, a study of the costs and effects of psychoanalytic treatment from a societal point of view seems justified.

Fortunately, increasing amounts of data on the cost-effectiveness of these long-term treatments are becoming available. A recent review by de Maat et al.<sup>12</sup> summarized the results of seven studies on costs and benefits of long-term psychoanalytic therapy. They calculated mean changes between pre-treatment and post-treatment, as well as changes between pre-treatment and follow-up. Use of health care and sick leave costs were reduced by 66% at treatment termination and this effect was still apparent at follow-up (64% reduction). Their findings suggested that long-term psychoanalytic therapies may result in cost savings in the long term, primarily through reductions in absenteeism from work, but also through reductions in healthcare utilization. They calculated that the break-even point for benefits and treatment costs was approximately 3 years after treatment termination.<sup>12</sup> Results from a prospective, naturalistic longitudinal study by Kraft et al.,<sup>13</sup> which examined medical utilization by patients who were participating in mid- and long-term outpatient psychotherapy, showed an impressive reduction (about 80%) in the number of hospital days and also a substantial reduction (about 25%) in medical healthcare costs from pre-treatment to 2 years after the start of treatment. In a retrospective long-term follow-up study, Beutel et al.<sup>14</sup> assessed work loss and hospitalization days before, during, and after psychoanalytic treatment. On the basis of health insurance records, they found that absenteeism from work declined strongly from pre-treatment to the end of treatment (66% fewer days of sick leave) and remained fairly stable throughout the 7-year follow-up period. They also found a large reduction in ambulatory medical consultations and psychotropic medication use. The mean number of hospital days was rather low initially and remained low throughout treatment and follow-up. However, not all studies on costs and benefits of psychoanalytic treatments show similar positive results. For example, Lazar et al.<sup>15</sup>

found significant improvements in self-rated general health state, but no reductions in terms of absence from work and healthcare utilization for patients who received long-term psychoanalytic treatment. In contrast, they found that the average number of consultations with psychologists, social workers, and other mental health specialists increased significantly after psychoanalytic psychotherapy.

In studying the effects of treatment on societal costs, it may be relevant to adopt a broad societal perspective by considering direct costs as well as indirect costs such as medical costs incurred outside the treatment site and costs due to work impairment.<sup>7,16,17</sup> In Germany, health insurance records provide independent data about these costs, including sick leave, hospitalization days, and medical consultations, although Beutel et al. noted that it is difficult to obtain complete data sets for a large number of patients.<sup>14</sup> Their research showed that patients' self-reports were significantly correlated with the health insurance records. In most other countries, however, patients' self-reports are the only available data source for health costs outside the psychotherapy setting. An advantage of patients' self-reports is that they can include more information and also that they can indicate disability for persons who did not have a paid job throughout the assessment period, such as students or homemakers, who would otherwise not be included if only data from health insurance records were considered.

Most cost-related studies in psychotherapy have focused on reductions in use of health care and/or reductions in absenteeism from work.<sup>3,12,18,19</sup> However, there is evidence that not just absenteeism from work, but also reduced productivity at work might represent a substantial proportion of indirect costs.<sup>20</sup> The aim of this study was to investigate the direct and indirect costs of patients before, during, and after long-term government-sponsored psychoanalytic treatment from a broad societal perspective. In this study, we used a quasi-experimental, cross-sectional design with four cohorts of patients in different phases of treatment. These cohorts were representative samples of patients from different phases of treatment who followed a naturalistic route through the mental health clinic to ensure high external validity and generalizability of the findings.<sup>21-23</sup> The advantage of such a research design is that we can obtain information about the effects of long-term treatments within a relatively short period of time. Cohort stud-

ies provide the best available evidence when randomized controlled trials (RCTs) are not feasible.<sup>24</sup> We expected to find high costs associated with healthcare utilization and work impairment in the group of patients entering psychoanalytic treatment because of their low quality of life<sup>25</sup> and the high percentage of patients who had previously already received treatment,<sup>9</sup> while we expected to find significantly lower costs in the group of patients for whom data were examined after long-term psychoanalytic treatment.

## METHODS

### Subjects

The total sample consisted of 231 subjects from four mental healthcare organizations (Nederlands Psychoanalytisch Instituut, De Gelderse Roos, Mediant, and Parnassia/Psy-Q) divided into four cohorts. The pre-treatment cohort ( $n = 64$ ) consisted of patients who had just started long-term psychoanalytic treatment; the during-treatment cohort ( $n = 49$ ) consisted of patients who had been in treatment for 1 year; the post-treatment cohort ( $n = 67$ ) consisted of patients who had just finished (within approximately 3 months) long-term psychoanalytic treatment; and the follow-up cohort ( $n = 51$ ) consisted of patients who had finished their treatment 2 years earlier (follow-up).

Inclusion criteria for participation were a minimum age of 18 years, having mastery of the Dutch language, having received or being assigned to long-term psychoanalytic treatment ( $> 25$  sessions, with a minimum frequency of once a week). Exclusion criteria were the presence of acute psychotic symptoms. We approached a total of 383 individuals, 247 (65%) of whom agreed to participate, while 81 (21%) declined, and 55 (14%) did not respond. Of the 247 persons who agreed to participate, 16 eventually did not participate in the study for various reasons (withdrawal from the study, never started the psychoanalytic treatment). No significant demographic differences were found between those who participated in the study and those who dropped out. All therapists ( $N = 94$ ) in the project were licensed clinicians (psychiatrists/psychotherapists or psychologists/psychotherapists) and were members of one of psychoanalytic societies in the Netherlands. Frequencies of treatment for the 231 patients were as follows: 115 patients (50%) had one session per

week, 23 patients (10%) were seen twice a week, 4 patients (2%) were seen three times a week, 43 patients (19%) were seen four times a week, and 46 patients (20%) were seen five times a week. Twenty-four subjects (10%) received medication in addition to their psychotherapy.

The majority of our sample (73%) were women. Our subjects ranged in age from 19 to 68 years, with an average age of 36 years ( $SD = 8.4$ ). We found that 77% of all patients had received previous psychotherapeutic treatment before applying for long-term psychoanalytic treatment. We also found that 44% of the patients were living with a partner, 21% had children, 92% had a Dutch cultural background, 76% had received higher education, and 79% were employed. Chi-square analyses revealed no significant differences between the cohorts on pre-treatment sociodemographic characteristics (gender, treatment history, living situation, cultural background, educational level, employment status), except for age at intake. Subjects in the post-treatment cohort were somewhat younger at the start of treatment compared with subjects in the other cohorts.

DSM-IV-TR diagnoses were formulated in a consensus meeting of psychiatrists, psychotherapists and test psychologists at the start of treatment after a comprehensive personality screening. Chi-square analysis of data concerning pre-treatment DSM-IV-TR<sup>26</sup> Axis I diagnoses did not show significant differences between the cohorts. The most frequent diagnoses across all of the cohorts were mood disorders (47%), in particular dysthymic disorder (30%). The frequencies of Axis II diagnoses were also roughly comparable across the four cohorts, except for the post-treatment and follow-up cohorts, in which significantly more patients were diagnosed with no personality disorder. Pre-treatment Global Assessment of Functioning (GAF) scores<sup>27</sup> (Axis V) of patients in the follow-up cohort were significantly higher compared with those of patients in the other cohorts. This might, however, be due to the tendency among mental health professionals in recent years to produce lower estimates of GAF scores in light of the threat of budget cuts (see also Doidge et al.<sup>28</sup>). We undertook an additional study in a random subsample, which confirmed that this finding was a temporally influenced structural adjustment of the GAF score instead of being due to a selection bias. In this subsample, we investigated whether the four cohorts had experienced similar processes with regard to treatment assignment

over time and across mental health clinics. Three experienced clinicians independently did new ratings of pre-treatment GAF scores and treatment assignment (psychoanalytic psychotherapy versus psychoanalysis) based on data that were extracted from patient files and given to them in a standard format (i.e., no information on cohort status, mental health organization, pre-treatment psychiatric classification, GAF score, or treatment assignment). The results from this additional study showed that clinical decision-making did not change significantly over time (cohorts) nor did it differ across the four mental health organizations, thus providing a strong check for the comparability of the cohorts (data available from authors on request).

### Measures Used

Societal costs consist of both treatment costs, which were directly assessed at the mental health clinics, and costs associated with healthcare utilization and work impairment, which were measured with a questionnaire.

**Treatment costs.** The estimation of treatment costs involves two steps: measurement of the quantities of resources used and assignment of unit costs or prices.<sup>16</sup> Total quantities of resources used could be calculated for patients who had finished their long-term psychoanalytic treatment. Three resource units were important: the pre-treatment diagnostic assessment, the number of sessions that actually took place, and the number of canceled sessions for which costs had already been incurred. Data on quantities of resources used were obtained from administrative records kept by the mental healthcare organizations. At one of the research sites, there was no exact record of sessions that took place or were canceled before 2001; therefore, for patients at that site whose treatment started before 2001, the number of sessions was calculated assuming an equal distribution of sessions over time (e.g., 138 sessions in 2001–2003 was extrapolated to 276 sessions for the period 1999–2003).

To value resource use, we did not employ existing market prices because these may not accurately reflect the real costs. Instead, unit costs were based on data concerning actual personnel costs for all psychotherapists and psychiatrists who delivered psychoanalysis or psychoanalytic psychotherapy in 2006, including material and overhead costs. This calcula-

tion led to an average cost per session of €115.22 (U.S.\$144.74, using the average rate of exchange from Euros to U.S. dollars for 2006.<sup>29</sup> Note all dollar equivalents presented in this article are based on this exchange rate.) The costs for the pre-treatment diagnostic assessment were estimated at €3,128.20 (\$3,929.71). These unit costs were then multiplied by the quantities of resources used, which resulted in an estimation of the total direct treatment costs. Because actual treatment costs differed over the years for which data were collected, a discount rate of 4% was applied to account for differential timing of costs.<sup>30</sup>

### **Costs associated with healthcare utilization and work impairment.**

In keeping with an earlier study, direct costs were defined as the monetary valuation of the resources used to detect and treat medical problems, while indirect costs were defined as the costs associated with productivity loss due to absence from work and reduced efficiency at work.<sup>31</sup> Direct medical costs and indirect costs were measured with the Trimbos/iMTA Questionnaire for Costs Associated with Psychiatric illness (TiC-P). This questionnaire was developed by Hakkaart-van Roijen and colleagues, in a joint effort by the Trimbos Institute and the Institute for Medical Technology Assessment (iMTA) at Erasmus Universitair Medisch Centrum Rotterdam.<sup>32</sup> The TiC-P measures costs of relevant utilization of health care other than psychoanalytic treatment and indirect costs due to productivity losses. The price of medication was not considered in the costs analyses because of the relatively low costs associated with it. We used the Health and Labor Questionnaire (HLQ) approach developed by Hakkaart-van Roijen and Bouwmans,<sup>20</sup> which was incorporated into the TiC-P, to estimate costs associated with productivity loss at work. With this approach, respondents are asked to estimate the number of additional hours they should have worked to compensate for production losses due to illness and reduced efficiency on working days. To analyze long-term absence from work we applied the friction-cost method.<sup>30</sup> This limits the indirect costs of productivity losses to the friction period, i.e., the period of time it takes to replace someone who becomes disabled, which was estimated at 154 days.<sup>20</sup> The recall period of the TiC-P (the time frame to which the questions apply) is 4 weeks; therefore, the mean costs were multiplied by 13 to calculate the annual costs. Missing values (4%) were replaced using the

group mean imputation method. This method of dealing with missing data involved calculating the mean of the observed data for each variable (per cohort and per treatment modality) and substituting that mean into every case with missing observations for that variable.

### Procedure

All patients who met the inclusion criteria (see discussion of Subjects above) were approached via mail. When subjects returned a positive informed consent, they received a package of questionnaires, including the TiC-P, by regular mail with a stamped addressed envelope. Data gathering was done between January 2004 and June 2007.

### Data Analyses

Statistical comparisons of costs associated with health care utilization and work impairment between the cohorts were done using analyses of variance (ANOVAs) in SPSS (version 17.0). Pearson correlation was used to investigate the relation between dosage of treatment and indirect cost savings.

## RESULTS

### Healthcare Utilization

The top part of Table 1 shows the mean direct costs per person per year for patients in psychoanalytic treatment in each of the four cohorts. We found that the pre- vs. post-treatment difference for total direct costs was €704 (\$884) per year, which was a difference of 45%. The pre-treatment vs. 2-year follow-up difference was €832 (\$1045) per year, which was a cost difference of 53%. Investigation of the separate categories revealed that the biggest contributor to costs associated with healthcare utilization was the use of ambulatory mental health care provided at settings other than our center where the patients were receiving psychoanalytic treatment.

### Work Impairment

The bottom part of Table 1 presents the mean annual indirect costs associated with productivity loss in each phase of treatment. The data indicate several findings. First, the pre- vs. post-treatment difference in

indirect costs was €1,740 (\$2,186) per person per year, which was a difference of 44%. Second, the biggest difference in costs associated with work impairment was in the category: absence from work. Third, at follow-up, the difference in indirect costs was €2,800 (\$3,517) per person per year, which was a difference of 71% compared with pre-treatment. Fourth, standard deviations were high. This might be explained by the fact that cost data were skewed, which is a common finding in cost-related studies.

### Costs of Long-Term Psychoanalytic Treatment and Indirect Cost Savings

The average duration of the psychoanalytic treatment the patients in this study received was 61 months (= 5.1 years). The total costs of the psychoanalytic treatment were calculated by adding the costs of the pre-treatment assessment, of the treatment sessions that had taken place, and of the treatment sessions that had been canceled but for which cost had been incurred. The average total cost of the psychoanalytic treatment was estimated to be €64,717 (\$81,299). Our results showed that—after adding up cost savings due to reduced healthcare utilization and work impairment—the total difference in societal costs between pre- and post-treatment was €2,444 (\$3,070) per person per year. Two years after treatment termination, these cost savings had increased to €3,632 (\$4,563) per person per year. We found no significant correlation between dosage of treatment (frequency × duration) and indirect cost savings.

## DISCUSSION

In this study we investigated the effects of long-term psychoanalytic treatment on healthcare utilization and work impairment. We adopted a broad societal perspective and found a substantial difference (€2,444 [\$3,070] per person per year) in societal costs between pre- and post-treatment. The total cost savings had increased further after the 2-year follow-up period (€3,632 [\$4,563] per person per year). These results suggest that we can expect decreased medical consumption and higher work productivity immediately after psychoanalytic treatment and increased economic gains 2 years after the treatment has ended. The benefits that were observed at treatment termination were maintained at 2-year follow-up, suggesting a continuous benefit of psychoanalytic treatment.

## EFFECTS OF PSYCHOANALYTIC TREATMENT ON HEALTHCARE COSTS

**Table 1. Mean direct and indirect costs per year (in €<sup>a</sup>) of patients in different phases of long-term psychoanalytic treatment**

	<i>Phase of treatment</i>				<i>ANOVA F</i>
	<i>Pre (n = 64) Mean (SD)</i>	<i>During (n = 49) Mean (SD)</i>	<i>Post (n = 67) Mean (SD)</i>	<i>Follow-up (n = 51) Mean (SD)</i>	
<b>Health care utilization<sup>b</sup></b>					
General practitioner	111 (211)	79 (136)	54 (108)	64 (140)	1.62
Ambulatory mental health care					
Center	655 (2,564)	169 (772)	75 (615)	99 (705)	2.15 <sup>d</sup>
Private	594 (1,508)	300 (628)	529 (1,531)	262 (792)	1.01
Company doctor	22 (74)	11 (55)	22 (110)	11 (54)	0.35
Medical specialist	83 (285)	109 (322)	146 (515)	166 (573)	0.42
Physiotherapist	72 (358)	108 (329)	10 (53)	72 (357)	1.14
Social worker	23 (128)	30 (209)	0 (0)	14 (102)	0.61
Alternative health practitioner	10 (80)	26 (184)	10 (79)	50 (283)	0.72
Self-help group	0 (0)	14 (93)	20 (158)	0 (0)	0.70
Total direct medical costs	1,570 (2,875)	846 (1,107)	866 (1,697)	738 (1,485)	2.27 <sup>d</sup>
<b>Work impairment</b>					
Absence from work	2,435 (5,380)	1,133 (3,256)	1,255 (4,017)	595 (1,986)	2.24 <sup>d</sup>
Reduced efficiency at work	1,355 (3,211)	1,303 (2,240)	918 (2,616)	500 (1,349)	1.35
Unpaid labor <sup>c</sup>	142 (597)	38 (172)	19 (97)	37 (198)	1.71
Total indirect costs	3,932 (6,637)	2,474 (4,190)	2,192 (6,200)	1,132 (2,363)	2.74 <sup>e</sup>
<b>Total direct and indirect costs</b>	<b>5,502 (7,746)</b>	<b>3,320 (4,548)</b>	<b>3,058 (6,474)</b>	<b>1,870 (2,878)</b>	<b>3.87<sup>e</sup></b>

<sup>a</sup>Average exchange rate for 2006 was 1 Euro = 1.25622 US dollars. Conversion based on historical exchange rates on the OANDA website [www.oanda.com/currency/historical-rates](http://www.oanda.com/currency/historical-rates).<sup>29</sup>

<sup>b</sup>These costs do not include costs of the psychoanalytic treatment patients were receiving at our mental healthcare centers.

<sup>c</sup>Unpaid labor refers to costs associated with obtaining substitute personnel to undertake household work, shopping, and child care when the patient is unable to perform these tasks.

<sup>d</sup>*p* < 0.10      <sup>e</sup>*p* < 0.05      ANOVA = analysis of variance      SD = standard deviation

An explanation for this potential sleeper effect might be that long-term psychoanalytic treatment reduces people's vulnerability to become psychologically distressed when faced with challenges in a way that protects from relapse after treatment.

The results of our study were somewhat less optimistic than those reported in the review by de Maat et al. (discussed in the introduction to this paper), which examined the costs and benefits of long-term psychoanalytic treatment.<sup>12</sup> Unlike the findings in that review, we cannot conclude that all invested costs will eventually be earned back due to savings in areas

such as healthcare utilization and work productivity. We also found no significant correlation between dosage of treatment and indirect cost savings. Apparently, costs savings (as a result of reduced use of health care and work impairment) do not increase with more investments (increased frequency or longer duration of treatment). This would suggest that the costs-savings ratio for high-frequency psychoanalytic treatments is less favorable than that for low-frequency treatments.

We also found that costs associated with work impairment represented the major part of the total

societal costs before treatment. This is consistent with findings from cost-of-illness studies of patients with mood disorders, (e.g., Luppá et al. 2007,<sup>5</sup> which found that indirect costs were the greatest contributor to the overall costs associated with depression). Improved efficiency at work made a large, although not significant, contribution to the total indirect cost savings, while absence from work appeared to be the biggest contributor to indirect costs savings. Before treatment, patients placed a considerable economic burden on society, mainly due to absenteeism from work. We found substantially lower costs related to absence from work after psychoanalytic treatment. This fact becomes even more compelling if we take into account that, according to national health statistics from the Netherlands, the mean number of days of sick leave naturally increases with age.<sup>33</sup> The subjects who had already finished their treatment were significantly older at the time of assessment than the subjects before and during treatment ( $F = 6.71, p < 0.001$ ). Considering this naturalistic course, one would expect higher levels of absenteeism from work in the post-treatment and follow-up groups. Our results show that the opposite was the case.

This study had some methodological limitations. First, the use of the cross-sectional cohort design limits the strength of our conclusions and mainly shows that the data strongly suggest that psychoanalytic treatment reduces costs associated with healthcare utilization and work impairment. A longitudinal RCT design could provide more conclusive answers. A related point is that a potential form of confounding in multiple-cohort designs involves differences in background characteristics and level of pre-treatment psychopathology between the cohorts.<sup>34</sup> One cannot be sure that the patients enrolled in the various cohorts were equivalent in terms of baseline psychopathology and background characteristics. We compared the four cohorts on pre-treatment DSM-IV-R diagnoses, sociodemographic characteristics, and clinical decision-making and found no significant differences on most variables. This provided support for the comparability of the four cohorts. Longitudinal research is certainly needed to provide more conclusive evidence. Also, we decided not to consider costs of medication use, because of the immense diversity in medications used and relatively low costs of the medication but we included as many relevant societal costs as possible. We were also dealing with imperfect estimates of the true overall costs for society. As Lazar et al.<sup>15</sup> pointed

out, remote savings such as reduced healthcare consumption and increased productivity of the patient's family members should ideally be included, but these variables are obviously difficult to measure. We encourage future research to attempt to assess these remote cost savings.

The major methodological merits of our study were the large sample size and the state-of-the-art assessment of direct and indirect costs.

The study presented here showed that costs associated with healthcare utilization and work impairment were significantly lower after long-term ambulatory psychoanalytic treatment compared with before treatment. Furthermore, these economic gains were also found at 2-year follow-up. Of course, long-term psychoanalytic treatment should be considered beneficial not only because it can reduce costs associated with healthcare utilization and work impairment. The primary goal of psychotherapy is to improve a patient's psychological state, with reductions in societal costs being a secondary goal.<sup>15</sup> We emphasize that indirect cost savings should not be a prerequisite for funding of psychotherapy. A cost-effective treatment is not necessarily cheap or cost-saving, but rather is characterized by clinically significant psychological and/or societal gains that make the invested costs worthwhile. We recommend that state-of-the-art cost-effectiveness analyses be conducted in future studies.

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