The economics of employing a counsellor in general practice: analysis of data from a randomised controlled trial

KARIN FRIEDLI

MICHAEL B KING

MARGARET LLOYD

SUMMARY

Background. *Counselling is currently adopted in many general practices, despite limited evidence of clinical and cost effectiveness.*

Aim. *To compare direct and indirect costs of counsellors and general practitioners (GPs) in providing care to people with emotional problems.*

Method. *We carried out a prospective, randomized controlled trial of non-directive counselling and routine general practice care in 14 general practices in north London. Counsellors adhered to a Rogerian model of counselling. The counselling sessions ranged from one to 12 sessions over 12 weeks. As reported elsewhere, there were no differences in clinical outcomes between the two groups. Therefore, we conducted a cost minimisation analysis. We present only the economic outcomes in this paper. Main outcome measures were cost data (service utilisation, travel, and work absence) at baseline, three months, and nine months.*

Results. *One hundred and thirty-six patients with emotional problems, mainly depression, took part. Seventy patients were randomised to the counsellors and 66 to the GPs. The average direct and indirect costs for the counsellor was £162.09 more per patient after three months compared with costs for the GP group; however, over the following six months the counsellor group was £87.00 less per patient than the GP group. Over the total nine-month period, the counsellor group remained more expensive per patient.*

Conclusions. *Referral to counselling is no more clinically effective or expensive than GP care over a nine-month period in terms of direct plus indirect costs. However, further research is needed to establish indirect costs of introducing a counsellor into general practice.*

Keywords: *counselling; general practitioners; randomised controlled trial; emotional problems.*

Introduction

ECONOMIC evaluations in mental health research are assuming greater importance, particularly with the annual cost of mental illness in England estimated at £32.1 billion at 1996/1997 prices.[1] Research into counselling in general practice is no exception. Tolley and Rowland[2] reviewed different types of economic evaluations that could be applied to counselling research. A recent study reported inconclusive results as to whether direct costs of a counsellor versus routine practitioner care were more costly.[3] The results of many studies suffer from methodological weaknesses, such as small sample sizes, lack of randomisation, high attrition rates, and short follow-ups.[4] In addition, most economic evaluations have only concentrated on direct costs of care.[5-8]

Counselling has currently been adopted in many general practices[9] despite limited evidence of clinical and cost-effectiveness. We recently reported on the efficacy and patient satisfaction of general practice-based, non-directive counselling versus routine general practice care over a nine-month period.[10] We found that all patients improved significantly over time but there were no significant differences between the groups on mental health outcomes. However, patients were more satisfied with the help they received from the counsellors compared with general practitioners (GPs).

The aim of this paper is to compare the costs of non-directive counselling, in addition to routine general practice care, with routine care alone. The combined counselling and routine general practice treatment group will be simply known as the 'counselling group' throughout the rest of this paper. Both direct costs and indirect costs will be taken into account.

Method

Design and randomisation

We carried out a prospective economic evaluation at the same time as a randomised trial of brief, non-directive counselling versus routine GP care. Detailed description of the design of the trial and the clinical outcome are reported elsewhere.[10] Data collection took place from August 1993 to October 1995. We used a block randomisation: two sets of blocks of six (three counsellors and three GPs) random combinations were sealed in consecutive envelopes. Randomisation took place after the baseline assessment.

Patients

Patients were recruited from 14 practices in north-west London, covering different socioeconomic areas. GPs were asked to recruit all patients suffering from an emotional problem in whom they considered a counselling intervention necessary.

Intervention group — counselling

Four counsellors were employed for the study and had the necessary qualifications and experience to be accredited by the British Association for Counselling.[11] They adhered to a Rogerian model of counselling[12] and a standardised code of ethics and practice.[13] Patients were offered six to 12 sessions of counselling. Patients randomised to the counselling intervention were able to see their GP at any time.

K Friedli, RGN, MPhil, PhD, research fellow; M B King, MD, PhD, FRCP, FRCGP, MRCPsych, professor, Department of Psychiatry and Behavioural Sciences; and M Lloyd, MD, FRCP, FRCGP, reader in general practice, Department of Primary Care and Population Sciences, Royal Free and University College Medical School, Royal Free Campus, London.
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Control group — routine general practice

Each doctor involved in the study was asked to manage each patient as they would normally, but they were discouraged from referring the patient to a counsellor during the study period unless absolutely necessary.

Assessments

We assessed patients on three occasions: before treatment, at three months, and at nine months after the initial assessment. KF interviewed all patients at home or in the surgery. She did not express any personal opinions or provide therapeutic support to patients in either group.

We chose the self-report measures as main outcomes to avoid interviewer bias. We used the Beck Depression Inventory,[14] the Brief Symptom Inventory,[15] the computerised revised Clinical Interview Schedule,[16] and the modified Social Adjustment Scale.[17]

Defining costs

In evaluating costs of a counselling service, the concept of 'opportunity costs' needs to be considered. Opportunity costs incorporate the notion of scarcity of resources and are defined as the value of the foregone benefits because the resource is not available for its best alternative use.[18] For example, a GP may spend half an hour talking to a patient about their depression, but could alternatively have provided medical care to three other patients. So the opportunity cost of providing the talking therapy is the value of not using the time in providing medical care to the three other patients. A proxy measure for these opportunity costs is short-term average revenue costs plus appropriate measured capital and overhead elements. A compendium of these average revenue or unit costs compiled by the Personal Social Services Research Unit (PSSRU)[19] was used.

Opportunity costs are also important when considering costs to the patient. Despite health services being free at the point of consumption, patients incur both time and travel costs. Patients may have to pay for travel and/or lose income when attending an appointment. With the advice of a health economist, we adapted the PSSRU's Client Service Receipt Interview[20] to measure all direct and indirect costs considered important in providing a counselling service in general practice.

Direct costs

We collected the following information from all patients at baseline, three, and nine months follow-up: type of accommodation, number of persons in the household, and social security benefits. We asked the study counsellors to monitor the frequency and duration of all contacts. We did not consider it practical to ask GPs to record the length of every consultation; therefore, we asked patients about the number of consultations with GPs and other health professionals and their estimate of time spent with each of these professionals. Data were collected from the study counsellors on number and length of appointments. We recognise that these ways of estimating time are different, and take account of this imbalance in the sensitivity analysis, described later. Other direct cost variables included the number of outpatient appointments, length of inpatient stays, and type and amount of medications prescribed.

Costs of service utilisation were based on unit cost data taken from the PSSRU compendium.[19] The unit cost for a GP consultation included drug prescribing costs; therefore, we did not need to calculate the costs of the prescribed drugs separately. A single set of estimates was used for out- and inpatient costs.

No average revenue costs for counsellors working in general practice could be found. We based the costs on actual payment for patient; face-to-face contact with the counsellor included costs such as supervision and sickness leave, whereas costs of counsellors travelling to the surgery were excluded. Although the counsellors employed for the study were, of necessity, peripatetic, our aim was to evaluate the work of practice-based counsellors who would not normally be paid to travel to work.

Indirect costs

Indirect cost variables included number of days taken off sick from work for any reason, travel costs (bus/train fares plus car mileage), and childcare costs (for example, use of babysitter or crèche). We calculated lost production costs using the number of days off sick from work (including time taken off to see the counsellor or doctor) at an average wage rate of £336.30 per week[21] for patients in full-time employment. For patients doing housework, 57% of the average wage was used.[22] Lost production costs for patients on social security benefits (income support or sickness benefit) were zero since it can be argued that these costs are seen as transfer payments from one economy to another without a service or goods being exchanged in return.[1] Travel costs were based on the actual fare of the bus or train, and the mileage rate of 33.6 pence per mile was obtained from the British Automobile Association. Childcare costs were calculated on the actual costs of the childcare to the research subjects.

Analysis

We analysed data using SPSS for Windows version 6.1.3. We performed a cost-minimisation analysis since no differences in clinical outcomes (such as the Beck Depression Inventory) were found.[10] We conducted the analysis on an intention-to-treat basis, assessing the outcomes of all randomised patients whether or not they completed counselling or saw the GP. The mean costs were calculated for each of the two groups, treating each cost separately and then adding up the total direct and indirect costs. Mann–Whitney U-tests were calculated together with 95% confidence intervals of the median difference between the counsellor and routine care groups. Although we analysed median costs statistically, mean costs are presented as an appropriate guide to the magnitude of the differences.

Data are provided on a full data set. If there were missing data for one variable then the case was deleted. To calculate the costs for the total nine months after baseline, data were only taken from subjects who completed the economic questionnaire at both follow-up points.

Sensitivity analysis

We performed a sensitivity analysis to examine the effects of any possible inaccuracies in the ways we measured GP and counsellor costs and counsellor unit costs. We repeated the analysis using patient self-reported counsellor appointments and compared these with the counsellor-reported number of appointments.

No published unit costs of a counsellor were available. Counsellors are paid an hourly salary, which should include overhead costs such as absence pay, National Insurance, superannuation, and other costs, such as supervision. However, the salary used in the study may not have reflected 1995/1996 prices. The counsellor unit costs were based on the payment counsellors received (£15 per hour) at the start of the study in 1993. It is possible that a more realistic payment would have been £65 per 3.5 hours of client contact. We understand that this is what many counsellors were earning in 1995/1996 in general practices in North London. This results in a unit cost of £18.57 per hour.

Results

One hundred and thirty-six patients — of whom 70 were randomised to see the counsellor and 66 to usual general practice care — entered the study and completed data on costs. We contacted 110 (81%) patients at three months and 117 (86%) at nine months follow-ups. The most common symptom leading to referral to the study was depression, followed by anxiety. The sample consisted of mainly young to middle-aged, white women.

Despite there being slightly more married, older patients and more men randomised to the counsellor, there were no statistically significant differences between the two randomised groups on variables such as sex, age, marital status, education, employment, and social class. Table 1 shows further demographic data relevant to the economic evaluation. There were no significant differences in household composition, accommodation, and benefits. None of the patients lived in specialised accommodation.

As we reported elsewhere, there were no significant differences between the groups on any of the mental health outcomes at three or nine months.[10] The counsellor group consumed greater therapy resources during the first three months, as would be expected from their group allocation, but during the following six months the GP group saw counsellors (not the study counsellor) for a longer average time (Table 2). This was because a small number of patients made contact with counsellors outside of the research. During the intervention period, one patient in the counsellor group and nine patients in the GP group saw another professional for talking therapy. Between the three and nine months follow-up, a further eight patients in the counsellor group and eleven patients in the GP group saw another counsellor outside the study or equivalent. Patients in the routine general practice group consulted their GP for more total time than those in the counselling group, both during the first three months after the baseline assessment (U = 937; P = 0.0132; median difference = -10 [95% CI = -25 to 0]) and the following six months (Table 2). The GP group had a greater mean number of outpatient appointments and inpatient stays during the whole nine months (Table 2). There were no significant differences in total prescribing, including anti-depressants, between the two groups at baseline or either follow-up points.

'Other health care professionals' and 'childcare' are not listed in the tables since patients did not have many contacts with other health care professionals and only one patient in the GP group occasionally used a crèche or baby sitter to look after their child. The costs of the other health care professionals were included in the cost minimisation analysis (Table 3), but the childcare costs were excluded as they were seen as insignificant costs.

At three months the direct costs for the counselling group were £15.79 (U = 852; P = 0.003; median difference = 75 [95% CI = 30 to 122]) more per patient than routine GP care, but during the subsequent six months routine care was £171.05 (U = 1218; P = 0.02; median difference = -51.6 [95% CI = -138 to -3.44]) more expensive per patient (Table 4). Costs increased in the GP care group because of a trend for a higher average time spent with a GP, significantly higher costs in consulting other health professionals, and a higher number of outpatient appointments (Table 3). In terms of indirect costs, the counsellor group remained more costly at all time points (Table 4).

In terms of total costs to society, use of a counsellor was significantly more costly after three months than usual general practice care (U = 894; P<0.007; median difference = 96.2 [95% CI = 29.1 to 174]), but there was a trend for the counsellor group to become less expensive compared to usual routine care during the following six months (U = 1318.5; P = 0.063; median difference = -79 [95% CI = -235 to 0]) (Table 4). The aggregated data at nine months show that the counsellor again becomes more expensive (not significant), due to the indirect costs.

Table 1. Background details of patients (n = 135) by counselling and usual general practitioner group. Figures are numbers (percentages) of patients.

	Counselling group (n = 69)	Routine general practice group (n = 66)
Accommodation		
Rented accommodation	25 (36)	29 (44)
Owner/occupier	34 (49)	24 (36)
Other	10 (15)	13 (20)
Number in household		
1 adult, no children	12 (19)	15 (25)
2 adults, no children	14 (22)	15 (25)
1 adult with child or children	12 (19)	9 (15)
2 adults with child or children	18 (28)	10 (17)
Other	9 (14)	10 (17)
Number of bedrooms		
1 bedroom	7 (10)	13 (20)
2 bedrooms	25 (36)	16 (24)
3 or more bedrooms	38 (54)	37 (56)
Social security benefit		
Income support	12 (52)	11 (38)
Income support plus rent or housing benefit	2 (9)	12 (41)
Disability, invalidity or sickness benefit	3 (13)	3 (10)
Other	6 (26)	3 (10)
Number of weeks on benefit		
Less than 3 months	9 (39)	5 (18)
Between 3 and 12 months	6 (26)	9 (32)
More than 1 year	8 (35)	14 (50)

Results of the sensitivity analysis

Using the patient self-reported number of counselling sessions made no difference to the results. Inserting the revised counsellor unit costs into the cost minimisation analysis increased the direct costs of the counsellor group during the intervention period by £15.61 per patient.

Discussion

Our trial was a pragmatic evaluation of the effectiveness of counselling as it is used in general practice. Its pragmatic nature made it more generalisable and amenable to economic evaluation[23] by maximising external validity without compromising internal validity. At first our results may seem disappointing to people who favour counselling in general practice, as they indicate that counselling is not a cost-effective option in general practice.

Examining the results more closely, and taking limitations of the study into consideration, it seems that employing a counsellor at a general practice is more expensive in terms of total costs to society (direct and indirect costs) during the intervention period. This is despite patients in the routine care group needing to see the GP for a significantly greater length of time. In particular, the counselling group had higher counsellor and work absence costs. It may be that counsellors encouraged patients to take some time off work to deal with their problems or patients allowed themselves to take more time off work. Alternatively, patients may have been forced to take more time off work to see a counsellor

Table 2. Appointments with GPs and counsellors, use of secondary services, sick leave, and travel for patients in each randomised group.

Average total time spent (minutes) with any counsellor after three months and the following six months.[a]				
	Counsellor group		General practitioner group	
	Mean	n	Mean	n
0–3 months	396.6	61	50.0	51
3–9 months	78.9	62	92.0	55
Average total time spent (minutes) with a general practitioner after three months and the following six months.[b]				
	Counsellor group		General practitioner group	
	Mean	n	Mean	n
0–3 months	22.6	53	55.2	49
3–9 months	28.4	61	41.9	55
Average number of outpatient appointments and inpatient stays after three months and the following six months.[c]				
	Counsellor group		General practitioner group	
	Mean	n	Mean	n
Outpatient appointments				
0–3 months	0.4	58	0.8	50
3–9 months	0.5	62	1.4	55
Inpatient stays				
0–3 months	0.1	59	0.1	51
3–9 months	0.1	62	0.3	55
Average number of days taken of sick for any reason after three months and the following six months.				
	Counsellor group		General practitioner group	
	Mean	n	Mean	n
0–3 months	5.2	59	3.3	51
3–9 months	5.9	62	4.9	55
Travel costs after three months and the following six months.				
	Counsellor group		General practitioner group	
	Mean	n	Mean	n
Actual bus and train fares				
0–3 months	0.7	61	1.4	51
3–9 months	1.8	62	4.1	55
Mileage (pence per mile)				
0–3 months	3.7	61	1.0	51
3–9 months	1.3	62	1.1	55

[a]U = 363; P<0.0001; difference in median = 400 (95% CI = 300–450). [b]U = 937; P = 0.0132; difference in median = -10 (95% CI = -25–0). [c]U = 1407; P = 0.0442; difference in median = 0 (95% CI = 0–0).

rather than a GP, since counsellors tend to work within working hours whereas GPs often hold evening or weekend surgeries.

By nine months, the direct costs of the two groups had reversed, with the costs of the counsellor group becoming less per patient compared with the GP group. This study, and a similar study,[3] found that patient costs in the GP group increased because of increased contact with other health care professionals and greater attendance at outpatient appointments.

The results for the indirect and total costs need to be interpreted with caution. It seems that patients in the counselling group reduced their total costs during the six months after the intervention, but when the data from the three and nine months follow-up were aggregated the counsellor group become more expensive. In addition, patients seeing the counsellor were taking more time off work, both during the intervention and follow-up period, compared with the GP group, in contrast to the findings by Gourney and Brooking.[5] However, the difference in taking days off work between the counsellor and routine care group became smaller in the six months after the intervention. It may be that a nine months follow-up is too early to get beyond the initial, expensive counsellor costs and a later follow-up may turn the results in favour of the counsellor group.

A further limitation to the indirect costs may be the calculation of lost production costs. These were produced using the number

Table 3. Average cost (£) per patient associated with each group.

The counsellor group			
Counsellor group costs	Three months after the baseline (n)	Period between three and nine months (n)	Nine months after baseline (n)
Counsellor	108.70 (69)[a]	9.59 (61)	124.43 (61)
General practitioner	38.78 (53)[b]	48.87 (61)	88.74 (49)
Other health care professional	24.52 (59)	21.40 (62)[c]	36.75 (56)
Inpatient	19.02 (59)	21.11 (62)	43.41 (56)
Outpatient	22.60 (58)	28.50 (62)[d]	49.75 (55)
Work absence	347.70 (59)	399.22 (62)	802.32 (56)
Travel	4.39 (61)	3.15 (62)	7.49 (58)
The general practitioner group			
General practitioner group costs	Three months after the baseline (n)	Period between three and nine months (n)	Nine months after baseline (n)
Counsellor	7.16 (51)[a]	19.27 (55)	29.35 (46)
General practitioner	94.99 (49)[b]	72.12 (55)	144.91 (44)
Other health care professional	18.06 (51)	53.85 (55)[c]	81.87 (46)
Inpatient	25.67 (51)	61.20 (55)	56.91 (46)
Outpatient	43.32 (50)	79.80 (55)[d]	135.53 (45)
Work absence	218.27 (51)	326.52 (55)	461.32 (46)
Travel	2.39 (51)	5.21 (55)	7.18 (46)

[a]U = 205; P<0.0001; difference in median = 105 (95% CI = 75–135). [b]U = 937; P<0.013; difference in median = -17.2 (95% CI = -43–0). [c]U = 1403; P<0.042; difference in median = 0 (95% CI = 0–0). [d]U = 1407; P<0.044; difference in median = 0 (95% CI = 0–0).

Table 4. Total average costs (£) per patient at the three and nine months follow-ups and the difference in costs between the counsellor and general practitioner groups.

Counsellor group costs (A)	Three months after baseline (n)	Period between three and nine months (n)	Nine months after baseline (n)
Direct costs	207.94 (53)	127.19 (60)	308.63 (48)
Indirect costs	352.14 (59)	402.37 (62)	808.70 (56)
Total costs	583.21 (53)	542.97 (60)	1191.27 (48)
General practitioner group costs (B)	**Three months after baseline (n)**	**Period between three and nine months (n)**	**Nine months after baseline (n)**
Direct costs	192.15 (49)	298.24 (55)	474.30 (44)
Indirect costs	220.65 (51)	331.73 (55)	468.50 (46)
Total costs	421.12 (49)	629.97 (55)	963.33 (44)
Difference in costs (A-B)	**Three months after baseline**	**Period between three and nine months**	**Nine months after baseline**
Direct costs	15.79[a]	-171.05[c]	-165.67
Indirect costs	131.49	70.64	340.20
Total costs	162.09[b]	-87.00[d]	227.94

[a]U = 852; P<0.003; difference in median = 75 (95% CI = 30–122). [b]U = 894; P<0.007; difference in median = 96.2 (95% CI = 29.1–174). [c]U = 1218; P<0.02; difference in median = -51.6 (95% CI = -138 to -3.44). [d]Trend U = 1318.5; P = 0.063; difference in median = -79 (95% CI = -235-0).

of days off sick and an average working salary. However, only 49% of our sample were in paid employment and we assumed that patients on benefit were assigned a zero cost. There is disagreement among health economists about these social security costs, some arguing that these costs have an alternative use.[1] It may be that if such a substantial number of the sample fall into the social security category, provision should be made to include these costs into the economic evaluation. For example, the patient may have been able to return to work after seeing a counsellor.

In addition, we analysed our data using average unit costs from the PSSRU compendium.[19] Clearly, there will be local variations, particularly the cost of different outpatient appointments, that may make counselling in general practice more or less costly.

Practice-based counsellors are increasingly popular and most patients find them helpful and are satisfied with their care.[10,24] However, our results emphasise how economic factors can change direction over longer periods of follow-up. Introducing a counsellor into general practice is not cost-effective in the short term, and possibly not in the long term, because of indirect costs. Without overburdening data collection in randomised trials, economic evaluations should be made of all variables that are potentially affected by the counselling. Greater consideration should be paid to indirect costs, as well as direct costs, before further expansion of counsellors in general practice can be recommended.

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Address for correspondence

Professor Michael King, Department of Psychiatry and Behavioural Sciences, Royal Free and University College Medical School, Royal Free Campus, Rowland Hill Street, London NW3 2PF. E-mail: m.king@rfc.ucl.uk