

Methods

The participants in this study were recruited from an integrated medicine project, which provides acupuncture, chiropractic and homeopathy to all residents in a deprived area. 72 people completed treatment before 1/8/05 and signed informed consent was obtained from 48. Of the remaining 24, 11 gave verbal consent but did not return the signed informed consent forms within the required timeframe, and a further 4 were out of the country. The 9 others did not respond to phone calls or letters. To examine whether their CAM treatment had any impact on their use of conventional medical services we collected information from their regular GP's practice, had them complete pre- and post-treatment SF-36 and MYMOP questionnaires and had them complete an exit survey.

Health Care Utilization

Health records were abstracted from any practice that contained two or more patients resulting in thirty-seven sets of healthcare records. For each patient we collected information on the date and type of practice-resource used and the date and type of medication prescription issued. It was not possible to consistently collect information on referrals to other medical services, or episodes of hospitalization. Nor was it possible to confirm that prescriptions were filled. Information on practice contacts and prescriptions was abstracted between 01 Jan 2003 and the most recent appointment/medication recorded in the patient's records. The numbers of months, pre- and post-initial Impact contact, were calculated and rates of visits/contacts per month were calculated.

Several people were excluded from the health care utilization analysis. One because he had no healthcare practice visits after beginning with IMPACT and it could not be confirmed that he was still with his reported practice. Two women were pregnant and it was not possible to distinguish other visits from their pre- and post-natal visits. Three people had less than two months before or after treatment commenced at IMPACT making the calculation of rates unreliable. The final number of people who health care utilization rates were examined was 28. This limited an evaluation by the type of CAM-treatment as numbers were often too small for reliable statistical estimates.

SF-36

The Short Form 36 (SF-36) is a multi-purpose health survey which provides information on 8 areas of functional health and well-being. It is intended to be a generic measure and provides measures of health regardless of age, gender or disease group which makes it ideal for this setting. There is an extensive body of literature validating the scale (Garratt; BMJ) and demonstrating that it is sensitive to changes in health and improvements in health from treatment. The eight health domains in the SF-36 are

- physical functioning - 10 items- Limitations in physical activity because of health problems
- role limitations, physical - 4 items - Limitations in usual role activities because of physical health problem
- role limitations, emotional - 3 items - Limitations in usual role activities because of emotional problems.
- Social Functioning - 2 items - Limitations in social activities because of physical or emotional problems
- mental health - 5 items - psychological distress and well-being
- energy & vitality- 4 items - energy and fatigue
- bodily pain - 2 items - presence of pain and limitations due to pain
- general medical health - 5 items - self-evaluation of personal health
- change in health

Completion of the SF-36 requires good facility with the English-language and the language has to be modified to suit the local study population. It is also available in other language versions but they were not used here. In addition, scoring norms are developed for each country within which it is used. The scale is copyrighted and permission to use it may be required. Fifty-four patients completed the SF-36 both when they started with IMPACT and at the end of their treatment.

MYMOP

The Measure Yourself Medical Outcome Profile (MYMOP) was developed in Britain to allow practitioners to have their patients identify changes in their health. The questionnaire asks patients to identify one or two symptoms which bother them the most and indicate their severity on a scale that ranges from 0 ("as good as it could be") to 6 ("as bad as it could be"). They are also asked to choose one activity that

this problem interferes with and rank the severity as above. Lastly, they are asked to rate their general feeling of well-being on the same scale. In a second administration of the questionnaire the patient is asked to rank the severity of the two symptoms they previously listed. The MYMOP was completed by 85 people when started with IMPACT and at the end of their treatment.

Exit Survey

Patients who had completed their treatment at IMPACT were asked to complete a survey. The questions are listed in Table 6. Patients were also offered the opportunity to comment on changes in their medication, and reasons for wishing to reduce medication.

Analysis

T-tests were used to compare pre- and post measures. Comparisons were also made between the three practitioners when there were sufficient numbers. When a patient used the services of more than one they were classified into the group of the first practitioner they were referred to.

Results

Healthcare Utilisation

For the 28 patients for whom we could obtain and use their medical record information we had, on average, 16 months of pre-Impact time and 9 months of post-Impact time (see table 1). As can be seen in table 1 there was a statistically significant decrease in the number of GP visits per month but no significant change in medication use. It is perhaps clearer in figure 1 that all but 4 patients decreased the number of visits to the GP or had no change in their visit rate. Many of the patients referred to IMPACT were frequent attenders to GP practice; some because they had many chronic physical conditions and others because of mental health

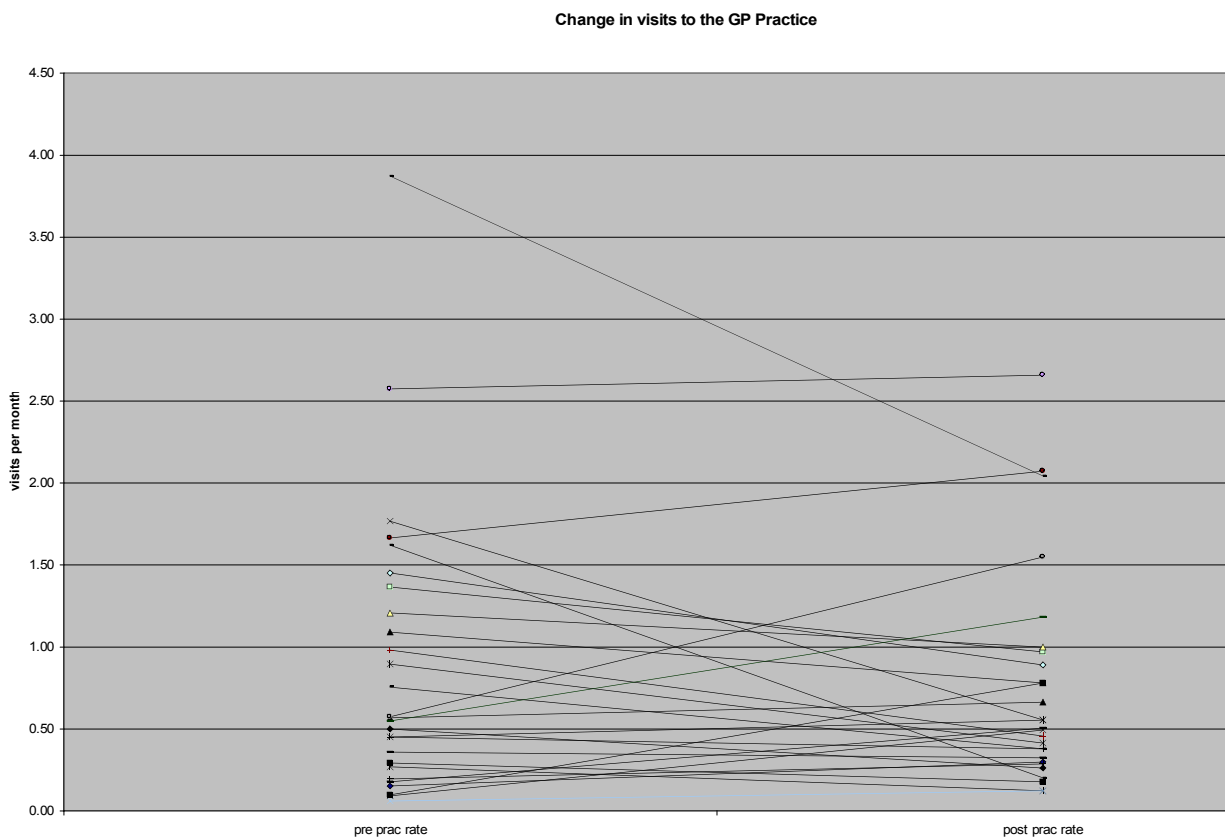
issues. Figure 1 highlights the fact that many frequent attenders decreased their burden on GP services.

Table 1 Healthcare Utilization records from Impact patients before and after treatment

	pre *	post *	change *	significance test #
number months of observation	16.1 (5.73) 7.4-27.3	9.2 (5.64) 1.8-17.9		
Healthcare Utilization				
rate of GP visits/month	0.89 (0.85) 0.06-3.87	0.75 (0.64) 0.12-2.66	0.14 (0.61) -0.97-1.83	3.88 (27) p=.001
rate of prescriptions/month	0.41 (0.39) 0-1.50	0.38 (0.38) 0-1.28	0.04 (0.35) -0.99-0.87	t=-0.54 (27) p=.592

* mean (SD) on first line; range on second line of each box
t(df) on first line; significance (p) on second line

Figure 1 The change in the number of visits to the GP Practice



SF-36

A comparison of pre-, post-IMPACT standardized SF-36 scores showed a statistically significant improvement in all aspects of health (table 2). The largest change is seen for "change in health", "pain", "limitations in usual role activities because of physical health problem" and "limitations in usual role activities because of emotional problems". Table 3 shows that 50% or more of patients had better health after their treatment at IMPACT. Figure 2 shows the number of health areas which were better, the same, or worse for the patients. More than half of the patients had no areas that were worse or the same after treatment. Unfortunately there are too few patients to analyze by treatment group.

Table 2 SF-36 scores

SF-36 - higher scores = better health	pre-*	post-*	change %	significance test
physical functioning	73.4 (20.4) 35-100	80.6 (21.4) 15-100	7.1 (16.6) -30 - 45	-2.55 (34) p=.016
role limitations – physical	50 (41.6) 0-100	76.4 (30.3) 0-100	26.4 (44.1) -75 - 100	-3.54 (34) p=.001
role emotional	52.4 (43.8) 0-100	73.3 (39.5) 0-100	20.9 (47.9) -100 - 100	-2.58 (34) p=.014
social functioning	66.1 (25.1) 22-100	78.9 (23.7) 11-100	12.7 (32.8) -67 - 78	-2.30 (34) p=.028
mental health	62.6 (19.7) 8-92	72.9 (18.0) 22-100	10.2 (20.4) -44 - 52	-2.97 (34) p=.005
energy and vitality	47.0 (17.0) 10-75	58.1 (19.2) 10-85	11.1 (22.7) -40 - 60	-2.91 (34) p=.006
pain	47.8 (26.1) 11-100	75.0 (21.0) 33-100	27.2 (28.3) -34 - 78	-5.69 (34) p<.001
general health	57.9 (19.4) 20-95	66.7 (20.9) -5-100	8.9 (21.6) -40 - 55	-2.42 (34) p=.021
change in health	50.7 (28.1) 0-100	83.6 (17.1) 50-100	32.9 (33.6) -50 - 75	-5.78 (34) p<.001

* mean (SD) of standardized scores on first line; range of raw scores on second line of each box

t(df) on first line; significance (p) on second line

% mean (SD) of change in standardized scores on first line; range of change score on second line of each box

Figure 2

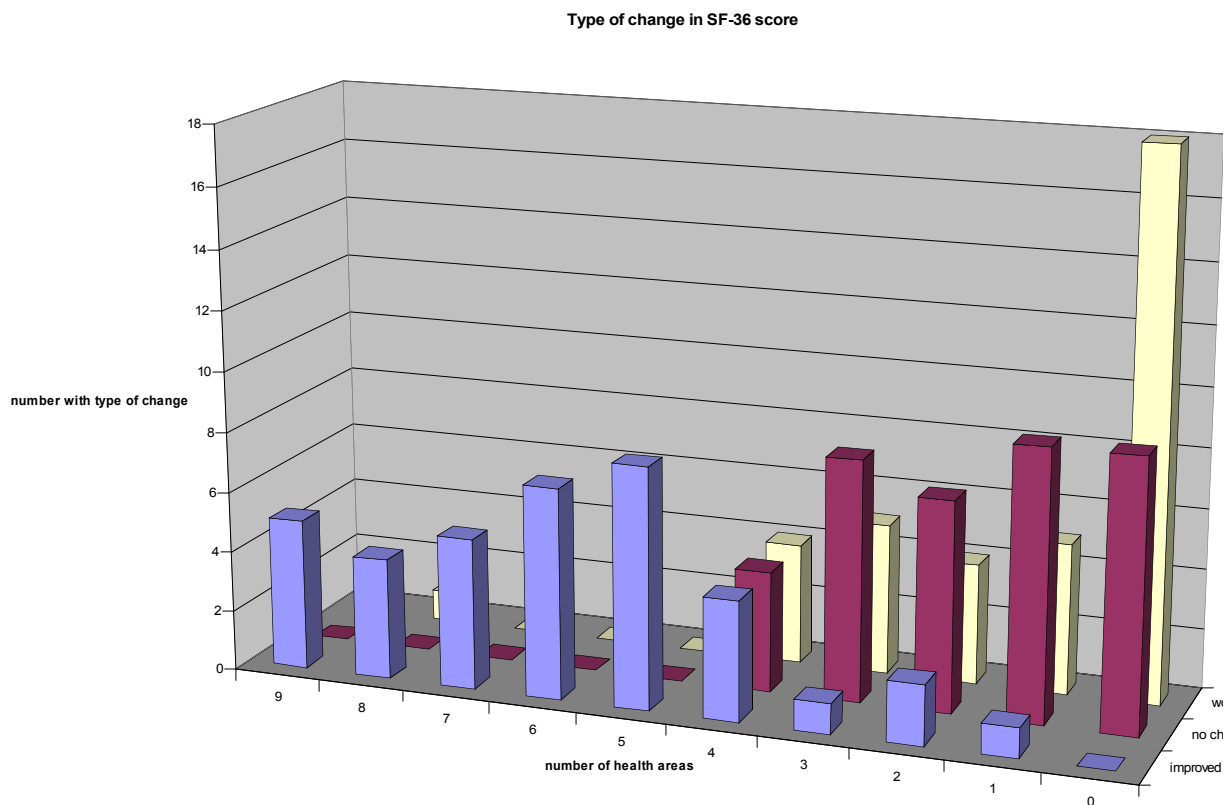


Table 3 Direction of change of SF-36 scores - Number (proportion)

health area	poorer health	no change	better health
physical functioning	7 (0.20)	10 (0.29)	18 (0.51)
role limitations – physical	5 (0.14)	10 (0.29)	20 ((0.57)
role emotional	4 (0.11)	14 (0.40)	17 (0.49)
social functioning	7 (0.20)	10 (0.29)	18 (0.51)
mental health	9 (0.26)	0 (0.0)	26 (0.74)
energy and vitality	9 (0.26)	4 (0.11)	22 (0.63)
pain	4 (0.11)	3 (0.09)	28 (0.80)
general health	10 (0.29)	2 (0.06)	23 (0.66)
change in health	3 (0.09)	7 (0.20)	25 (0.71)

MYMOP Scores

There were sufficient MYMOP scores for individual analyses at the treatment level for chiropractic and homeopathy (see Table 4). Overall there were statistically significant differences before and after treatment for symptom 1, symptom 2, activity limitations and general well-being.

Table 4 MYMOP scores

MYMOP - lower scores == better health	pre-	post-	change	significance test
All cases				
symptom 1	4.3 (1.1) 2-6	1.6 (1.2) 0-5	2.6 (1.7) -1 - 6	9.92 (38) p<.001
symptom 2	4.1 (1.3) 2-6	1.7 (1.3) 0-5	2.4 (1.5) 0-6	9.034 (33) p<.001
activity limitation	4.2 (1.1) 2-6	2.1 (1.4) 0-6	2.0 (1.6) -1 - 6	7.59 (36) p<.001
general well-being	3.58 (1.3) 1-6	1.9 (1.2) 0-5	1.7 (1.6) -4 - 5	6.49 (37) p<.001
Acupuncture				
symptom 1	4.6 (0.9) 3-6	1.7 (1.2) 0-4	-2.9 (1.5) -6 - -1	%
symptom 2	3.8 (1.3) 2-6	1.4 (1.2) 0-3	-2.3 (1.8) -6 - 0	%
activity limitation	4.3 (1.4) 2-6	2.7 (2.0) 0-6	-1.6 (1.7) -4 - 1	%
general well-being	3.6 (1.4) 1-6	1.9 (1.4) 0-5	-1.7 (1.5) -4 - 1	%
Chiropractic				
symptom 1	4.1 (1.3) 2-6	1.6 (.8) 0-3	-2.4 (1.3) -5 - 0	8.02 (17) p<.001
symptom 2	4.1 (1.4) 2-6	3.1 (1.7) 0-5	-1.9 (-1.6) -5 - 0	4.92 (13) p<.001
activity limitation	4.1 (0.7) 3-5	2.2 (1.1) 1-5	-1.8 (1.3) -4 - 1	5.58 (15) p<.001

general well-being	3.1 (1.1) 1-5	2.3 (1.3) 0-5	-0.7 (1.8) -3 - 4	1.87 (17) p = .079
Homeopathic				
symptom 1	4.4 (1.22) 2-6	1.7 (1.3) 0-5	-2.6 (1.8) -6 - 1	7.02(21) p<.001
symptom 2	4.2 (1.5) 1-6	1.7 (1.2) 0-5	-2.4 (1.6) -5 - 0	6.28 (20) p<.001
activity limitation	4.2 (1.3) 1-6	2.0 (1.1) 0-4	-2.0 (1.7) -6 - 1	5.77 (19) p<.001
general well-being	3.8 (1.1) 2-6	1.7 (1.0) 0-4	-2.1 (1.3) -5 - 0	7.59 (21) p<.001

* mean (SD) on first line; range on second line of each box

t(df) on first line; significance (p) on second line

% n too small for reliable testing

Table 5 shows that more than 95% of patients report that the symptom they deemed most important (symptom 1) was better after treatment and, more than 80% of them reported that symptom 2 was also better . As the numbers are small it is not wise to make comparisons between treatment groups.

Table 5 Direction of change of the MYMOP - Number (proportion)

	poorer health	no change	better health	total number *#
Acupuncture				
symptom 1	0	0	12 (1.00)	12
symptom 2	0	0	8 (0.88)	9
activity limitation	1 (0.08)	4 (0.33)	7 (0.58)	12
general well-being	1 (0.10)	1 (0.10)	8 (0.80)	10
Chiropractic				
symptom 1	0	1 (0.06)	16 (0.94)	17
symptom 2	0	2 (0.15)	11 (0.85)	13
activity limitation	1 (0.07)	1 (0.07)	13 (0.86)	15
general well-being	3 (0.18)	2 (0.12)	12 (0.70)	17
Homeopath				
symptom 1	0	1 (0.05)	21 (0.95)	22

symptom 2	0	4 (0.18)	18 (0.82)	22
activity limitation	1 (0.05)	4 (0.18)	17 (0.77)	22
general well-being	0	3 (0.14)	19 (0.86)	22

* not everyone answered every question

patients may have undergone more than one treatment regimen.

Exit Surveys

The majority of patients report reduced medications and GP visits (see table 5). Two-thirds of respondents report that they have cut down on their medication, although 83% say that their medication hasn't changed. Three-quarters of the patients felt that it was important to reduce the amount of medication they take. Most patients felt they went to the GP less and that this was due to the treatment they received at IMPACT. Few patients reported the use of other NHS services or that they were on a waiting list for an NHS service. Again, numbers are too small to compare treatment groups.

Table 6 Exit Survey Results - number (%)

Question	no	yes	number of responses
Have you cut down on your medication since coming to Impact?	14 (0.33)	28 (0.67)	42
Has your medication changed?	33 (0.83)	7 (0.17)	40
Is it important to you to reduce your medication?	8 (0.24)	25 (0.76)	33
Do you go to your GP less than you did before you came to Impact?	8 (0.18)	36 (0.82)	44
If you go less often, do you think this is because of the treatment you've had here	2 (0.06)	30 (0.94)	32
Were you having treatment from the hospital or other services (e.g. physiotherapist) before coming to Impact	28 (0.67)	14 (0.33)	42
Were/are you on a waiting list - e.g. hospital, operation?	31 (0.86)	5 (0.14)	36

Discussion

In general patients in this project reported decreased use of government healthcare services and improved well-being. Examination of their medical records confirmed that most used less conventional healthcare although we could not demonstrate that they had reduced their medications. On average the group reduced their GP visits from once in every 34 days to once in every 40 days. Seven of 9 patients who visited their GP more than once a month reduced their visits. Oddly, the least frequent users, people who attended only once or twice per year, increased their attendance, although their burden on the healthcare system is still almost non-existent even after this increase.

The MYMOP scores (table 5) show that virtually all patients reported an improvement in the symptom that they considered the most important at the time they started with IMPACT. And, the change in SF-36 shows significant improvements in all health domains (table 2) and figure 2 shows that most patients had improvements in 5 or more areas and/or no areas that were worse.

The exit surveys showed that two-thirds of patients thought they were taking less medication and as this would include over-the-counter medications this might explain the discrepancy with the findings from GP Practice files. Of note, is the fact that three-quarters of the patients felt it was important to reduce the number and amount of medications they took. Medication data from the GP Practices was difficult to abstract as different practices used different strategies and different medical record computer systems to track medications. In a more detailed study, more time should be spent abstracting this data. As we have estimated that it would take 2-3 hours per patient to do a full healthcare utilization abstraction of a patient with many chronic conditions it would be a significant burden on the GP Practice and would be expensive in researcher time.

Virtually all patients felt that they used few GP services since starting with IMPACT and, although the healthcare utilization data does not show as big an effect, it does concur with the trend towards less use of GP Practice services. The patients may also have been incorporating use of other NHS services into their

reply and as we could not collect this information we have likely underestimated the reduction in the use of NHS services.

Several interesting project ideas have arisen from this preliminary analysis.

1) it would be interesting to determine which frequent attenders are the most likely to benefit from IMPACT's services.

2) it would be interesting to confirm the finding from the five patients in this sample who used the least health care (1 to 2 times per year) who increased their use of conventional healthcare after contact with IMPACT. This may be an artefact of small numbers, of the number of months since starting with IMPACT, or some other factor.

3) larger numbers would make it possible to compare treatment regimens and disease categories.