

## Methods

### A preliminary assessment of the effectiveness of IMPACT treatment for common medical conditions

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A physician reviewed records from 226 patients. He abstracted the patient's most pressing symptoms (from the MYMOP forms), any referrals from GPs and the CAM practitioners diagnoses. Dr. Kelly then rationalized the conditions into 8 categories that are understandable for conventionally-trained medical practitioners: back pain, musculoskeletal/rheumatic conditions (other than back pain), other chronic pain, mental health, gynaecological, asthma/atopy/allergy, smoking cessation, other. Patients were often classified with multiple diagnoses. Then, within each group of conditions before and after scores on the MYMOP and SF-36 were compared.

## Results

counts	n (%)
back pain	57 ((24.3)
MSD/Reum	60 (25.5)
other chronic pain	21 (8.9)
mental health	87 (37.0)
gynecologic	5 (2.1)
asthma/allergies/atopy	23 (9.8)
other	29 (12.3)
smoking cessation	11 (4.7)
TOTAL	235 (100)

### Changes in SF-36 and MYMOP scores for specific conditions

#### Paired T-Test

##### Back Pain

SF-36 - higher scores = better health	pre-*	post-*	significance test
physical functioning	61.6 (23.57)	65.8 (33.7)	-0.815 (24) p = 0.423
role limitations – physical	34.0 (38.8)	68.0 (31.1)	-4.309 (24) p < 0.001
role emotional	49.3 (47.3)	68.0 (40.3)	-2.114 (24) p = 0.045
social functioning	56.0 (29.1)	76.6 (26.8)	-3.518 (24) p = 0.002
mental health	64.8 (25.2)	74.4 (23.4)	-2.420 (24) p = 0.023
energy and vitality	50.2 (21.3)	58.2 (23.6)	-1.680 (24) p = 0.106
pain	38.6 (25.4)	68.2 (25.6)	-5.706 (24) p < 0.001
general health	60.6 (19.3)	64.0 (22.3)	-0.756 (24) p = 0.457
change in health	48.0 (24.9)	72.0 (19.5)	-3.868 (24) p = 0.001

\* 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

### Musculoskeletal Disorders/Rheumatic Disease

SF-36 - higher scores = better health	pre-*	post-*	significance test
physical functioning	59.8 (22.8)	66.6 (27.0)	-1.802 (24) p = 0.084
role limitations – physical	31.0 (32.5)	59.0 (39.5)	-3.361 (24) p = 0.003
role emotional	76.1 (73.0)	72.0 (39.3)	0.253 (24) p = 0.803
social functioning	59.2 (27.3)	74.3 (31.3)	-2.139 (24) p = 0.043
mental health	61.1 (24.8)	70.4 (22.4)	-1.623 (24) p = 0.1180
energy and vitality	42.4 (21.8)	52.8 (21.8)	-2.288 (24) p = 0.031
pain	34.9 (17.8)	56.7 (24.1)	-3.642 (24) p = 0.001
general health	47.0 (22.1)	54.8 (27.5)	-1.568 (24) p = 0.130
change in health	46.0 (18.7)	69.0 (23.1)	-3.874 (24) p = 0.001

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# 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

### Mental Health

SF-36 - higher scores = better health	pre-*	post-*	significance test
physical functioning	74.4 (28.2)	75.9 (34.9)	-0.379 (34) p = 0.707
role limitations – physical	42.9 (40.0)	65.0 (38.9)	-3.159 (34) p = 0.003
role emotional	39.0 (67.5)	57.1 (44.7)	-1.446 (34) p = 0.157
social functioning	45.3 (25.8)	64.8 (33.1)	-2.818 (34) p = 0.008
mental health	48.8 (20.9)	62.1 (27.9)	-2.383 (34) p = 0.023
energy and vitality	37.0 (21.3)	51.7 (24.6)	-2.971 (24) p = 0.005
pain	54.3 (27.6)	68.4 (28.8)	-3.293 (34) p = 0.002
general health	52.4 (29.6)	57.2 (30.0)	-1.175 (34) p = 0.248
change in health	55.0 (29.0)	75.7 (23.1)	-3.346 (34) p = 0.002

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# 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

**Back Pain**

<b>MYMOP - lower scores ==-better health</b>	pre-	post-	significance test
Chiropractic			
symptom 1	3.8 (1.4) 1-6	1.6 (1.0) 0-5	7.672 (28) p < 0.001
symptom 2	3.8 (1.6) 1-6	1.9 (1.5) 0-5	4.975 (19) p < 0.001
activity limitation	4.0 (1.1) 2-6	2.1 (1.3) 0-5	6.488 (26) p < 0.001
general well-being	3.2 (1.2) 1-6	2.0 (1.3) 0-5	3.642 (28) p = 0.001

\* 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

**Musculoskeletal Disorders/Rheumatic Disease**

<b>MYMOP - lower scores ==-better health</b>	pre-	post-	significance test
Acupuncture			
symptom 1	4.3 (1.1) 3-6	2.7 (1.4) 0-5	4.656 (23) p < 0.001
symptom 2	4.1 (1.4) 0-6	2.6 (1.3) 0-5	4.804 (20) p < 0.001
activity limitation	4.2 (1.3) 2-6	3.0 (1.5) 0-6	3.026 (22) p = 0.006
general well-being	3.4 (1.6) 0-6	2.2 (1.1) 0-4	3.504 (21) p = 0.002
Chiropractic			
symptom 1	4.1 (1.3) 1-6	2.0 (1.3) 0-5	6.011 (24) p < 0.001
symptom 2	3.9 (1.2) 2-6	2.0 (1.3) 0-5	5.940 (19) p < 0.001
activity limitation	3.9 (1.1) 1-6	1.9 (1.1) 0-4	6.179 (20) p < 0.001
general well-being	3.4 (1.3) 1-6	2.3 (1.1) 0-4	4.071 (23) p < 0.001

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

% n too small for reliable testing

**Mental Health**

<b>MYMOP - lower scores ==better health</b>	pre-	post-	significance test
Acupuncture			
symptom 1	4.3 (1.0) 3-6	2.6 (1.2) 0-5	5.608 (26) p < 0.001
symptom 2	3.6 (1.0) 1-6	2.7 (1.3) 0-5	2.884 (23) p = 0.008
activity limitation	4.4 (1.1) 2-6	3.1 (1.4) 0-6	4.162 (22) p < 0.001
general well-being	3.7 (1.2) 1-6	2.8 (1.2) 0-5	2.752 (23) p = 0.011
Chiropractic			
symptom 1	4.2 (1.2) 1-6	2.0 (1.5) 0-4	6.923 (22) p < 0.001
symptom 2	4.0 (1.5) 1-6	1.9 (1.5) 0-5	6.332 (19) p < 0.001
activity limitation	4.3 (1.1) 2-6	2.7 (1.6) 0-5	4.883 (19) p < 0.001
general well-being	3.6 (1.2) 2-6	2.5 (0.9) 1-4	4.104 (20) p = 0.001
Homeopathic			
symptom 1	4.4 (1.3) 1-6	1.9 (1.3) 0-5	9.015 (34) p < 0.001
symptom 2	4.1 (1.3) 1-6	1.6 (1.2) 0-5	8.916 (31) p < 0.001
activity limitation	4.1 (1.5) 0-6	1.9 (1.2) 0-4	7.365 (32) p < 0.001
general well-being	4.1 (1.2) 1-6	1.7 (1.1) 0-4	9.042 (34) p < 0.001

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% n too small for reliable testing

**Conclusions and Discussion**

Then number of patients is still small but sufficient numbers with back pain, musculoskeletal/rheumatic disorders and mental health problems have completed treatment and can be assessed.

SF-36 results

Patients with back pain showed statistically significant improvements in their physical role limitations,, emotional role, social functioning, mental health, pain and overall change in health.

Patients with musculoskeletal/rheumatic disorders showed improvements in the physical role limitations, social functioning, energy and vitality, pain, and overall change in health. The improvements in social functioning and energy and vitality are not as large as changes in the other domains and may or may not be seen in another analysis with greater numbers. The other changes are quite robust.

Patients with mental health disorders showed improvements in the physical role limitations, social functioning, mental health, energy and vitality, pain, and overall change in health.

#### MYMOP scores

Patients with back pain who received chiropractic treatment reported significant improvements in the symptom they felt was most important as well as the 2<sup>nd</sup> symptom. They also reported fewer activity limitations and an increase in general well-being.

Patients with musculoskeletal/rheumatic disorders who received acupuncture or chiropractic treatment reported significant improvements in the symptom they felt was most important as well as the 2<sup>nd</sup> symptom. They also reported fewer activity limitations and an increase in general well-being.

Findings for patients with mental health problems who received homeopathic, chiropractic or acupuncture treatment reported significant improvements in the symptom they felt was most important as well as the 2<sup>nd</sup> symptom. They also reported fewer activity limitations and an increase in general well-being.

#### **Limitations**

Numbers are still small and many of these patients have multiple conditions but the results are generally robust and analyses with larger cohorts could be expected to have the same positive findings.

I analyzed all patients who had mental health problems AND any pain (back pain or MSD/rheum or other chronic pain) and did not find any significant effect of treatment. This finding suggests that patients are NOT just generically responded to the more personalized treatment offered at IMPACT.

Note - you are also getting referrals from Housing Support Officers. Will this continue with commissioning?

There are several data management issues which I recommend be addressed. These changes would be made in the context of making things easier for practitioners and allow them to focus on their work rather than 'paper pushing'. It would also make future data collection easier.