

BCT Mapping of CTM Training and role of Care Staff to support behaviour change

Note: No observations of fidelity to the 'expected' behaviour change prompts and conversations to taught in the CTM training was performed in this feasibility study, therefore we are not certain how many of these techniques were used in the actual interactions and conversations between clients and CTM Motivator care staff during the course of the study. We are aware from the interviews with clients after the study completed that they felt Covid-19 had affected the time that staff had to talk to them or encourage them to move more.

Goals & Planning

- 1.1 Goal setting (behaviour)
- 1.2 Problem-solving
- 1.3 Goal setting (outcome)
- 1.4 Action planning
- 1.5 Review behaviour goals
- 1.7 Review outcome goals

Feedback and monitoring

- 2.2 Feedback on behaviour
- 2.4 Self monitoring of outcomes(s) of behaviour

Social Support

- 3.1 Social support (unspecified) –discussion about involving significant others, friends and family to help support their goals

Shaping knowledge

- 4.1 Instruction on how to inform the behaviour

Natural consequences

- 5.1 Information about health consequences
- 5.2 Salience of consequences
- 5.3 Information about social and environmental consequences
- 5.4 Monitoring of emotional consequences – “How did that feel?”
- 5.6 Information about emotional responses

Comparison of behaviour

- 6.1 Demonstration of the behaviour

Associations

- 7.1 Prompts/cues

Repetition & substitution

- 8.1 Behavioural rehearsal and practice
- 8.2 Behaviour substitution
- 8.3 Habit formation
- 8.4 Habit reversal
- 8.6 Generalisation of a target behaviour
- 8.7 Graded tasks

Reward and Threat

- 10.4 Social reward
- 10.9 Self reward

Antecedents

- 12.6 Body changes

Identity

- 13.2 Framing/reframing

Self-belief

- 15.1 Verbal persuasion about capability – (e.g. There's lots of potential in those legs!)
- 15.3 Focus on past success

Table S1: Secondary Outcome Scores T1-T3 – Rockwood Frailty Score, Phone-FITT, SF-36 Quality of Life Scores

	Time 1 Baseline	Time 2 at 8 weeks	Time 3 at X-X months
Rockwood Frailty Score \$: n	35	21	13
<u>Mean (SD)</u>	5.4 (0.8)	5.6 (0.6)	5.5 (0.7)
<i>Median (IQR)</i>	6.0 (1.0)	6.0 (1.0)	6.0 (1.0)
Cohens d _s	–	0.04	0.03
Phone-FITT Household FD (score) ¶: n	34	21	13
<u>Mean (SD)</u>	11.1 (9.9)	9.0 (8.2)	9.7 (9.5)
<i>Median (IQR)</i>	8.5 (18.0)	10.0 (12.0)	6.0 (18.0)
Cohens d _s	–	-0.23 ^a	-0.14
Phone-FITT Recreational FD (score) ¶: n	34	21	13
<u>Mean (SD)</u>	10.2 (8.9)	12.9 (8.8)	14.7 (6.8)
<i>Median (IQR)</i>	8.0 (8.5)	11.0 (14.0)	13.0 (11.0)
Cohens d _s	–	0.30 ^a	0.53 ^b
Phone-FITT Total FD (Score) ¶: n	34	21	13
<u>Mean (SD)</u>	21.8 (18.5)	21.9 (13.2)	24.4 (11.7)
<i>Median (IQR)</i>	16.0 (19.5)	20.0 (18.0)	22.0 (16.0)
Cohens d _s	–	0.00	0.15
Phone-FITT Household FDI: n	34	21	13
<u>Mean (SD)</u>	13.1 (11.2)	10.7 (9.4)	11.2 (10.6)
<i>Median (IQR)</i>	11.0 (20.0)	13.0 (15.0)	8.0 (20.0)
Cohens d _s	–	-0.23 ^a	-0.17
Phone-FITT Recreational FDI: n	34	21	13
<u>Mean (SD)</u>	11.4 (9.9)	14.6 (9.8)	16.3 (7.6)
<i>Median (IQR)</i>	8.0 (11.0)	13.0 (15.0)	15.0 (14.0)
Cohens d _s	–	0.32 ^a	0.53 ^b
Phone-FITT Total FDI:	34	21	13
<u>Mean (SD)</u>	24.5 (17.6)	25.2 (14.7)	27.5 (12.8)
<i>Median (IQR)</i>	18.5 (25.3)	26.0 (18.0)	24.0 (17.0)
Cohens d _s	–	-0.04	-0.18
SF-36 Physical functioning:	34	19	13
<u>Mean (SD)</u>	14.1 (7.5)	12.4 (7.5)	11.5 (9.4)
<i>Median (IQR)</i>	10.0 (75.0)	10.0 (10.0)	10.0 (10.0)
Cohens d _s	-	-0.15	-0.21
SF-36 Role limitations due to physical health:	35	19	13
<u>Mean (SD)</u>	30.7 (42.1)	44.7 (42.1)	53.8 (46.6)
<i>Median (IQR)</i>	25.0 (75.0)	25.0 (100.0)	50.0 (100.0)
Cohens d _s	-	0.36	0.57
SF-36 Role limitations due to emotional problems:	35	19	13
<u>Mean (SD)</u>	62.9 (30.2)	84.2 (30.2)	74.6 (36.6)
<i>Median (IQR)</i>	100.0 (66.7)	100.0 (33.3)	100.0 (66.7)
Cohens d _s	-	0.55	0.28
SF-36 Energy / fatigue:	35	19	13
<u>Mean (SD)</u>	41.6 (23.4)	49.5 (23.4)	44.6 (20.4)
<i>Median (IQR)</i>	35.0 (30.0)	50.0 (25.0)	40.0 (35.0)
Cohens d _s	-	0.33	0.13
SF-36 Emotional well-being:	35	19	13
<u>Mean (SD)</u>	64.3 (18.2)	73.9 (18.2)	80.0 (14.5)

<i>Median (IQR)</i>	68.0 (36.0)	76.0 (28.0)	80.0 (12.0)
Cohens d _s	-	0.41	0.68
SF-36 Social functioning:	34	19	13
<u>Mean (SD)</u>	53.1 (23.3)	73.0 (25.8)	75.0 (27.5)
<i>Median (IQR)</i>	45.0 (55.0)	75.0 (37.5)	75.0 (37.5)
Cohens d _s	-	0.63	0.67
SF-36 Pain:	35	19	13
<u>Mean (SD)</u>	53.1 (23.3)	55.5 (22.4)	52.3 (25.5)
<i>Median (IQR)</i>	45.0 (55.0)	57.4 (50.0)	45.0 (27.5)
Cohens d _s	-	0.09	-0.03
SF-36 general health:	33	19	13
<u>Mean (SD)</u>	50.6 (22.4)	57.4 (22.4)	56.9 (28.0)
<i>Median (IQR)</i>	45.0 (40.0)	55.0 (40.0)	55.0 (50.0)
Cohens d _s	-	0.28	0.24

Key: SD Standard deviation; IQR Interquartile range;

Rockwood Frailty Score – lower score is better

Phone-FITT FD is Frequency, Duration; FDI Frequency, Duration, Intensity - higher score is better;

SF-36 - higher score is better;

Cohens d_s effect sizes – ^asmall 0.2-0.5, ^bmedium 0.5-0.8, large 0.8-1.

Table S2: Barriers to Physical Activity/ Moving More T1-T3

	<i>Afraid of fall/injury</i>			<i>Lack of company</i>			<i>Poor Health</i>			<i>Lack of interest</i>		
	<i>n</i>	<i>Number saying partially agree or agree</i>	<i>% of sample</i>	<i>n</i>	<i>Number saying partially agree or agree</i>	<i>% of sample</i>	<i>n</i>	<i>Number saying partially agree or agree</i>	<i>% of sample</i>	<i>n</i>	<i>Number saying partially agree or agree</i>	<i>% of sample</i>
<i>T1</i>	34	21	61.8	34	20	58.8	34	19	55.9	34	7	20.6
<i>T2 (8 weeks)</i>	17	10	58.8	17	10	58.8	16	6	37.5	16	0	0.0
<i>T3 (>6 months)</i>	10	6	60.0	10	4	40.0	10	6	60.0	10	1	10.0

Table S3: Outcome Expectations T1-T3

	Time 1 Baseline		Time 2 at 8 weeks		Time 3 at X-X months	
	<i>n</i>	<i>% choosing Agree or Strongly Agree</i>	<i>n</i>	<i>% choosing Agree or Strongly Agree</i>	<i>n</i>	<i>% choosing Agree or Strongly Agree</i>
Physical Outcome Expectations						
Ability to perform ADLs	34	82.4	16	87.5	10	90.0
Overall body function	34	91.2	16	93.8	10	100.0
Strengthen my bones	34	64.7	16	87.5	10	60.0
Increase muscle strength	34	85.3	16	93.8	10	70.0
Social Expectations						
Help me socialise more	34	61.8	16	75.0	10	70.0
Self-evaluation Outcome Expectations						
Manage stress	34	55.9	16	68.8	10	80.0
Help my mood	34	70.6	16	87.5	10	80.0
Sense of personal accomplishment	34	85.3	16	93.8	10	90.0

Table S4: Intention and planning scale T1-T3

	Time 1 Baseline		Time 2 at 8 weeks		Time 3 at X-X months	
	<i>n</i>	<i>% choosing A Little True or Absolutely True</i>	<i>n</i>	<i>% choosing A Little True or Absolutely True</i>	<i>n</i>	<i>% choosing A Little True or Absolutely True</i>
Intention						
As part of my daily routine	34	91.2	16	100.0	9	88.9
Before I try walking	34	38.2	16	87.5	9	66.7
As part of my leisure time	34	82.4	16	93.8	9	77.8
Planning						
Precisely when to move more	34	26.5	16	75.0	9	44.4
Precisely where to move more	34	29.4	16	75.0	9	44.4
To continue moving more even when I feel limited by poor health	34	20.6	16	50.0	9	33.3

Figure S1: Barriers to Moving More over the 6-month timeframe

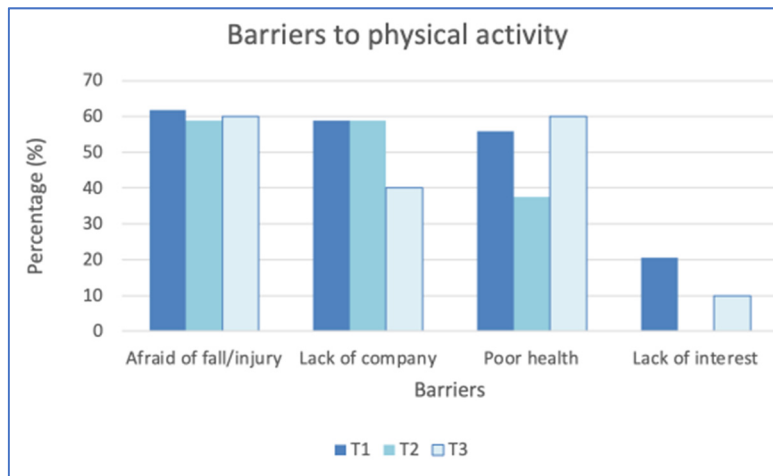


Figure S2: Outcomes expectations over the 6-month timeframe

Percentage positive responses were averaged for Q1-4 for physical outcomes expectations and for Q6-8 for self-evaluation outcome expectations for T1-T3 for figure below.

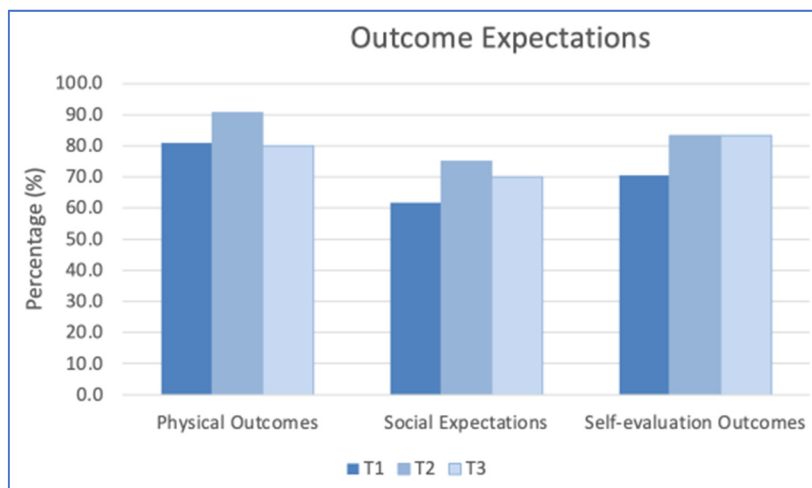
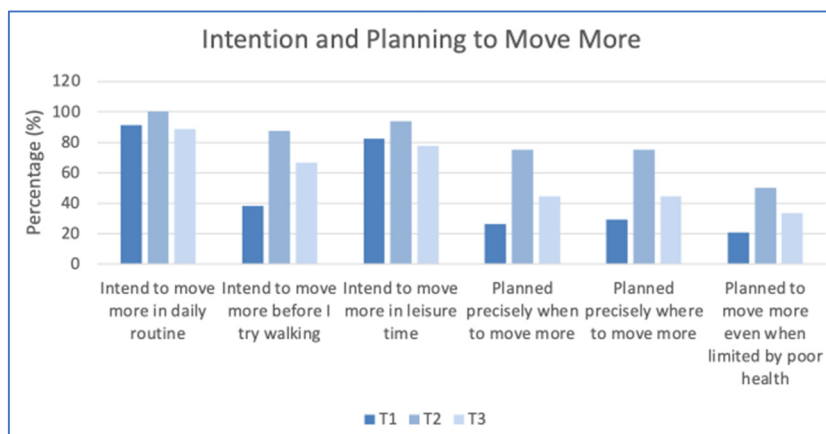


Figure S3: Intention and planning over the 6-month timeframe



Exemplar Quotes from Interviews with Managers under the Themes Acceptability and Feasibility

Acceptability:

... the focus was all about getting people to move more and be more independent and have better function ... (Participant 2)

... CTM needs to be encouraged more [as it] adds value to the home care visit by preventing frailty and frailty decline. [...] CTM is a preventative intervention ... an older person may experience a significant reduction in functional capability if admitted to hospital ... (Participant 4)

... CTM is suitable for all ... even people with a very significant decline in their health can benefit from CTM ... (Participant 4)

... we all need to move and, subtle as that sound[s], it is just critical about everything in CTM ... (Participant 5)

... the question was ... were carers in a position to help older people because the opportunities are there, because they are going in to see them very often? ... There's good relationships built up, ... there's trust and [...] could we look at that [...] as a way of helping older people [...] and encouraging the carer. [...] so the big focus was [...] skilling the carers in the CTM programme [...] and that's where the training came in ... (Participant 2)

... with targeted conversations over time we can make win-win approaches... (Participant 5)

... it's not about training [meaning exercise here], its conversations ... (Participant 5)

The initial programme was very good, the home care workers as well as the clients could see the benefits of it. ... That is definitely where we fit in to the programme ... I think the nature of our business is that we tend to [be] more proactive around doing things for people and one of the big thing that the project did ... is [show us] how we can assess people to do things for themselves [...] One of the interesting things that ... [the trainer] would have said to us in the beginning ... is around muscles mass and how muscle mass is connected to age and how it can improve regardless of age. ... [T]hey were kind of the key things that came back through the training ... (Participant 1)

Feasibility:

... and being conscious of if you have your mask on ... they're very conscious of ... they don't want to bring in anything to their clients ... that's their biggest worry ... and the second biggest worry is that they will bring it home to their family ... [T]heir worry is not about themselves ... (Participant 3)

... but I suppose there's another strand to help the carers ... and in an ideal world where you would see the champion located ... do you know like somebody ... possibly a supervisor or one of the managers or somebody that would be here... that they would be accessible to ... (Participant 3)

...yeah getting training in a programme expands the carers' and staff knowledge, like they get ... CPD or professional credits that expands their education and training (Participant 2)