Supplemental material 1

Intervention

The TIDier Checklist below outlines the location of additional details of the intervention.

Supplemental Table I: TIDieR Checklist

Item number	Item	Location
	BRIEF NAME	
1.	Provide the name or a phrase that describes the intervention.	M Page 4
	WHY	
2.	Describe any rationale, theory, or goal of the elements essential to the intervention.	M Page 4
	WHAT	
3.	Materials: Describe any physical or informational materials used in the intervention, including those provided to participants or used in intervention delivery or in training of intervention providers. Provide	https://www.researchgate.net/project/Augmented-Community-Telerehabilitation-Intervention-ACTIV OR in supplemental material_2.

	information on where the materials can be accessed (e.g. online appendix, URL).	
4.	Procedures: Describe each of the procedures, activities, and/or processes used in the intervention, including any enabling or support activities.	https://www.researchgate.net/project/Augmented-Community-Telerehabilitation-Intervention-ACTIV OR in supplemental material_2.
	WHO PROVIDED	
5.	For each category of intervention provider (e.g. psychologist, nursing assistant), describe their expertise, background and any specific training given.	Physiotherapists S Page 4, Supplemental Table II
	HOW	
6.	Describe the modes of delivery (e.g. face-to-face or by some other mechanism, such as internet or telephone) of the intervention and whether it was provided individually or in a group.	M Page 7
	WHERE	
7.	Describe the type(s) of location(s) where the intervention occurred, including any necessary infrastructure or relevant features.	M Page 7
	WHEN and HOW MUCH	

8.	Describe the number of times the intervention was delivered and over what period of time including the number of sessions, their schedule, and their duration, intensity or dose.	S Page 14, Supplemental Figure I
	TAILORING	
9.	If the intervention was planned to be personalised, titrated or adapted, then describe what, why, when, and how.	https://www.researchgate.net/project/Augmented-Community-Telerehabilitation-Intervention-ACTIV. P Page 6, 7 & 8. OR in supplemental material_2.
	MODIFICATIONS	
10.‡	If the intervention was modified during the course of the study, describe the changes (what, why, when, and how).	Not modified
	HOW WELL	
11.	Planned: If intervention adherence or fidelity was assessed, describe how and by whom, and if any strategies were used to maintain or improve fidelity, describe them.	S Page 11 & 12, Supplemental Table VI
12.‡	Actual: If intervention adherence or fidelity was assessed, describe the extent to which the intervention was delivered as planned.	S Page 13, Supplemental Table VII, VII, IX and X

M: main manuscript; P: published protocol paper; S: supplemental material;

Supplemental Table II: Characteristics of Physiotherapists Delivering the ACTIV Intervention

	Sex	Time since qualification (years)	Area covered during ACTIV	Number of participants seen during ACTIV	Recent areas of employment and experience
P1	F	12	North Auckland	7	Clinical supervisor in private musculo-skeletal practice. Physiotherapy advisor on research study
P2	F	28	North Auckland	9	Community physio with an area health board Private hospital orthopaedics Private community physio-owns business
P3	F	23	South Auckland	3	University teaching in the area of neurological practice. Blinded assessor on previous research studies
P4	F	14	South Auckland	1	Community physio with an area health board
P5	F	8	South Auckland	2	Research assistant, private physiotherapist in gait clinic
P6	F	12	Christchurch	16	Private community physio, blinded assessor on another research study
P7	F	23	Dunedin	1	Undertaking PhD during ACTIV study
P8	F	12	Dunedin	5	Private practice, musculo-skeletal and breathing disorders. Demonstrating anatomy at university. Clinical education

F: female.

Supplemental Table III: Covariates used for individual outcome measure adjustment.

	Baseline value	Mobility	Depression	Living situation	Sex	Age group
SIS (physical)	x	x				
Grip strength	x	x	x		x	
Step test	x	x				
SIS(strength)	x	x	x	x		
SIS(memory)	x					
SIS(emotion)	x			x		
SIS(communication)	x					
SIS(ADL)	x	x				
SIS(mobility)	x	x				
SIS(use of hand)	x					
SIS (participation)	x	x	x			
SIS (recovery rating)	x	x	x		x	
SSEQ	x					
EQ-5D VAS	x					
Admission	N/A					x

SIS: stroke impact scale; EQ-5D: a health status instrument; ADL: activities of daily living; N/A: not applicable.

Supplemental Table IV: Unadjusted Scores of outcomes at each time-point by group and estimated effect of ACTIV at 6 and 12 months, adjusted for covariates (Intention-To-Treat analysis set)

		ACTIV			Control			Adjusted difference (95% CI) 6 months	p-value	Adjusted difference (95% CI) 12 months	p-value
		Baseline	**6 months**	**12 months**	**Baseline**	**6 months**	**12 months**				
SIS3·0 physical	mean(SD)	69·4(16·0)	72·5(15·8)	68·5 (17·4)	63·3 (19·4)	64·4 (18·8)	63·5 (22·8)	4·51 (-0·46, 9·48)	0·07	1·72 (-4·04, 7·48)	0·55
	N	47	39	35	48	44	40				
Grip strength (affected)	mean(SD)	14·4(9·2)	16·3 (9·3)	16·1 (10·5)	16·7 (10·4)	18·5 (10·5)	18·3 (11·6)	-0·29 (-2·32, 1·73)	0·77	0·04 (-2·40, 2·47)	0·98
	N	47	39	35	48	44	40				
Grip strength (unaffected)	mean(SD)	24·0(12·0)	25·2 (11·5)	24·1 (13·1)	27·2 (14·3)	28·5 (13·3)	26·4 (13·3)	0·20 (-1·56, 1·96)	0·82	-0·71 (-3·33, 1·92)	0·59
	N	47	39	35	48	44	40				
Step number (affected) †	mean(SD)	7·4(4·5)	7·9 (4·9)	7·4 (5·6)	7·1 (5·4)	7·4 (6·1)	7·2 (5·9)	0·06 (-0·11, 0·23)	0·50	-0·047 (-0·25, 0·16)	0·65
	N	47	39	35	48	42	39				
Step number (unaffected) †	mean(SD)	8·2(5·1)	8·5 (5·2)	7·9 (5·5)	8·0 (5·3)	8·5 (5·9)	7·5 (6·2)	-0·02 (-0·18, 0·14)	0·79	0·0063 (-0·19, 0·21)	0·95
	N	47	39	35	48	42	39				
SSEQ	mean(SD)	99·9(20·1)	105·5 (19·9)	99·8 (27·0)	90·7 (30·9)	93·9 (28·3)	94·6 (28·7)		0·11		0·61

		ACTIV			Control			Adjusted difference (95% CI) 6 months	p-value	Adjusted difference (95% CI) 12 months	p-value
		Baseline	6 months	12 months	Baseline	6 months	12 months				
	N	47	39	35	48	44	40				
SIS 3·0	mean(SD)	58·5(19·5)	67·3 (21·3)	64·9 (20·4)	53·5 (20·1)	61·8 (19·6)	61·8 (22·7)	6·15 (-1·37, 13·67)		2·42 (-6·88, 11·72)	
	N	47	39	35	48	44	40				
EQ5D (VAS)	mean(SD)	69·9(18·0)	76·2 (17·8)	62·9 (25·6)	60·3 (19·7)	62·4 (25·7)	69·2 (20·4)	2·68 (-5·35, 10·70)	0·51	0·64 (-7·79, 9·07)	0·88
	N	45	38	35	48	41	40				
SIS-strength	mean(SD)	64·1(16·9)	65·4 (19·8)	61·6 (22·8)	54·0 (19·5)	54·3 (18·7)	56·9 (22·5)	10·09 (0·53, 19·65)	0·04*	10·09 (-19·86, -1·67)	0·02*
	N	47	39	35	48	44	40				
SIS-memory	mean(SD)	74·6 (17·5)	80·6 (14·9)	77·8 (15·4)	71·2 (18·9)	72·7 (19·9)	73·7 (23·9)	4·63 (-2·11, 11·38)	0·18	2·09 (-10·65, 6·46)	0·63
	N	47	39	35	48	44	40				
SIS-emotion	mean(SD)	75·8 (15·0)	77·0 (16·9)	77·5 (14·3)	71·2 (16·5)	70·4 (18·8)	70·3 (21·7)	4·43 (-1·11, 9·97)	0·12	1·72 (-5·01, 8·45)	0·61
	N	47	39	35	48	44	40				
								4·59 (-1·44, 10·62)	0·13	4·86 (-2·50, 12·23)	0·19

		ACTIV			Control			Adjusted difference (95% CI) 6 months	p-value	Adjusted difference (95% CI) 12 months	p-value
		Baseline	6 months	12 months	Baseline	6 months	12 months				
SIS-communication	mean(SD)	81·7 (16·7)	84·9 (16·3)	83·8 (17·9)	78·3 (19·2)	80·6 (20·1)	82·7 (18·6)	1·88 (-3·76, 7·52)	0·51	-0·21 (-5·64, 5·21)	0·94
	N	47	39	35	48	44	40				
SIS-ADL	mean(SD)	72·8 (16·1)	75·4 (17·4)	73·0 (18·1)	70·8 (19·1)	69·4 (20·0)	70·5 (22·5)	5·26 (-0·50, 11·02)	0·07	3·54 (-2·48, 9·56)	0·24
	N	47	39	35	48	44	40				
SIS-mobility	mean(SD)	71·8 (17·8)	74·6 (17·0)	70·4 (20·2)	63·2 (22·4)	66·9(21·7)	61·7 (25·0)	2·67 (-3·06, 8·40)	0·36	3·00 (-3·05, 9·04)	0·33
	N	47	39	35	48	44	40				
SIS-use of hand	mean(SD)	62·7 (31·9)	68·8 (26·9)	61·7 (29·5)	55·9 (32·7)	58·1 (29·9)	58·3 (31·9)	6·43 (-2·37, 15·22)	0·15	0·12 (-9·60, 9·84)	0·98
	N	47	39	35	48	44	40				
SIS-participation	mean(SD)	62·1 (21·3)	72·4 (22·0)	67·7 (24·5)	56·5 (22·6)	57·9 (24·8)	61·3 (24·1)	11·34 (2·54, 20·14)	0·01*	4·41 (-6·13, 14·95)	0·41
	N	47	39	35	48	44	40				

SIS: stroke impact scale; SSEQ: stroke self-efficacy questionnaire; ADL: activities of daily living; EQ-5D VAS: visual analogue scale to measure health status; *: statistically significant at 5% level; †: adjusted effect on natural logarithmic scale; CI: confidence interval.

Supplemental Table V: Unadjusted Scores of outcomes at each time-point by group and estimated effect of ACTIV at 6 months, adjusted for covariates (Per-Protocol analysis set)

		ACTIV		Control		Adjusted difference (95% CI)	p-value
		Baseline	6 months	Baseline	6 months	6 months	
SIS3·0 physical	mean(SD)	69·0(16·30)	73·4(15·2)	63·3 (19·4)	64·4 (18·8)	4·98 (0·003, 9·95)	0·0499*
	N	43	38	48	44		
Grip strength (affected)	mean(SD)	14·7(9·3)	16·7 (9·0)	16·7 (10·4)	18·5 (10·5)	-0·10 (-2·13, 1·93)	0·95
	N	43	38	48	44		
Grip strength (unaffected)	mean(SD)	23·9(11·5)	24·7 (11·3)	27·2 (14·3)	28·5 (13·3)	0·25 (-1·55, 2·05)	0·78
	N	43	38	48	44		
Step number (affected) †	mean(SD)	7·2(4·7)	7·8 (4·9)	7·1 (5·4)	7·4 (6·1)	0·04 (-0·13, 0·22)	0·61
	N	43	38	48	42		
Step number (unaffected) †	mean(SD)	7·9(5·2)	8·4 (5·2)	8·0 (5·3)	8·5 (5·9)	-0·02 (-0·18, 0·14)	0·77
	N	43	38	48	42		
SSEQ	mean(SD)	99·0(20·4)	105·9 (20·1)	90·7 (30·9)	93·9 (28·3)	6·43 (-1·17, 14·0)	0·096
	N	43	38	48	44		
SIS 3·0	mean(SD)	56·3(18·8)	67·5 (21·6)	53·5 (20·1)	61·8 (19·6)	2·79 (-5·37, 10·93)	0·68
	N	43	38	48	44		

		ACTIV		Control		Adjusted difference (95% CI)	p-value
		Baseline	**6 months**	**Baseline**	**6 months**	**6 months**	
EQ5D (VAS)	mean(SD)	68·5(17·9)	76·1 (18·1)	60·3 (19·7)	62·4 (25·7)	10·03 (0·35, 19·70)	0·043*
	N	41	38	48	41		

SIS: stroke impact scale; SSEQ: stroke self-efficacy questionnaire; ADL: activities of daily living; EQ-5D VAS: visual analogue scale to measure health status; *: statistically significant at 5% level; †: adjusted effect on natural logarithmic scale; CI: confidence interval.

Supplemental Table VI: Evidence of Intervention Fidelity in ACTIV

Stage of research	Definition	Evidence of fidelity
Intervention design		
1. Framework	Underlying theory, programme goals and intervention delivery are clear	Physiotherapy programme based on social cognitive theory (overarching). Used current research to support programme development.
2. Established training protocols	Training protocol clear for all staff.	Physiotherapy procedure clearly set out for each aspect of the process.*
3. Manual	All aspects of the programme are clearly set out in a manual.	All resources required presented in a fully indexed folder with procedure included.
Staff training		
4. Training protocols	Protocols are standardised and include didactic sessions, role play and modelling	Training protocol outlined in resources.*
5. Supervision protocols	Frequency and duration of supervision set out	Frequency of supervision was not planned *a priori* but was left to individuals due to the very wide geographical spread
6. Maintenance protocols	Ongoing supervision corrective feedback, ongoing training	Drop box entries of contact were monitored but no on-going training occurred.
7. Measurements	Establishing compliance with delivery of intervention	SM expert physiotherapist viewed returned physiotherapy contact information (copy sent after each visit and phone call)
Intervention delivery		
8. Differentiation	Understanding features unique to programme	The unique features of ACTIV were clearly articulated to physiotherapists and text delivery was practiced during the training.

9. Interventionist behaviours	Adherence to core elements	Content of the core elements that were delivered, were recorded. Supplemental Table VII.
10. Interventionists competence	Experience and competence	Years of experience and previous clinical practice were recorded. Supplemental Table II.
11. Monitoring drift	Ensure programme delivered correctly throughout programme	Physios filled out and returned paper copies of each contact and filled in a drop-box register of contact.
12. Corrective feedback	Feedback procedures in place	Ongoing support was offered by a research assistant if there were problems with text messaging.
Intervention receipt		
13. Protocols for dose received	Monitor dose received	In ACTIV dose delivered and dose received were recorded.
14. Participant comprehension	Establish participant comprehension	Participant comprehension was not measured systematically but was explored in the qualitative study.
15. Participant adherence	Establish participant adherence to programme	Asked about and documented at each telephone contact. Strategies were suggested for participants who expressed difficulties with ACTIV.

*Additional resources at https://www.researchgate.net/project/Augmented-Community-Telerehabilitation-Intervention-ACTIV

OR in supplemental material_2.

Supplemental Table VII: Content of ACTIV Delivered to Participants in the Intervention arm (N=47)

Key component	**Number who received component**
Goal identified and difficulty investigated	44
Exercises prescribed appropriate to goal	44
All 3 follow-up visits made with completed detail	34
At least 4/5 telephone follow-up visits with completed detail	37
Number of Participants who received content as per protocol	**34**

Supplemental Table VIII**:** Dose of ACTIV Delivered to Participants in the Intervention arm (N=47)

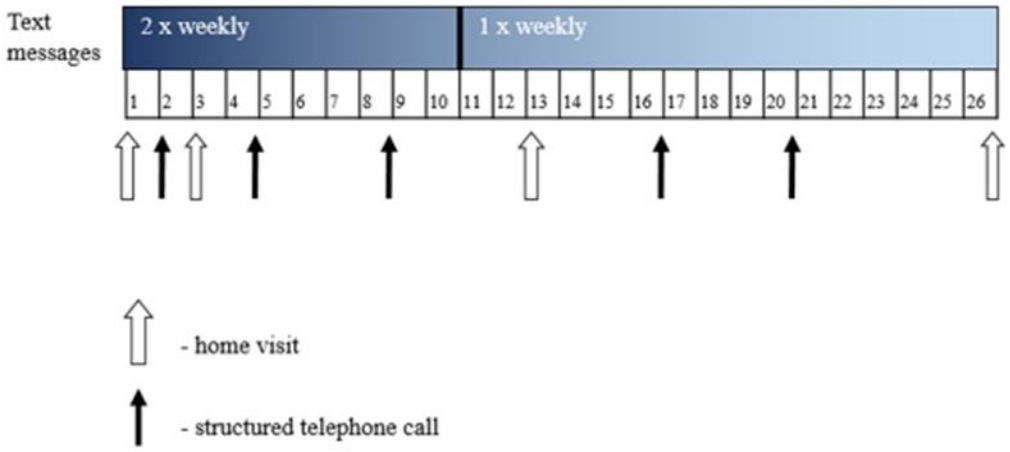
Contacts	**Number of participants who had specified number of contacts delivered.**	**Number of contacts delivered within specified time-frame.**
Four face-to-face visits	34	34
At least four phone calls	37	35
At least 28 text messages	37	37
Number of Participants who received dose as per protocol		**34**

Supplemental Table IX: Content of ACTIV Delivered to Participants in the Intervention arm (N=47)

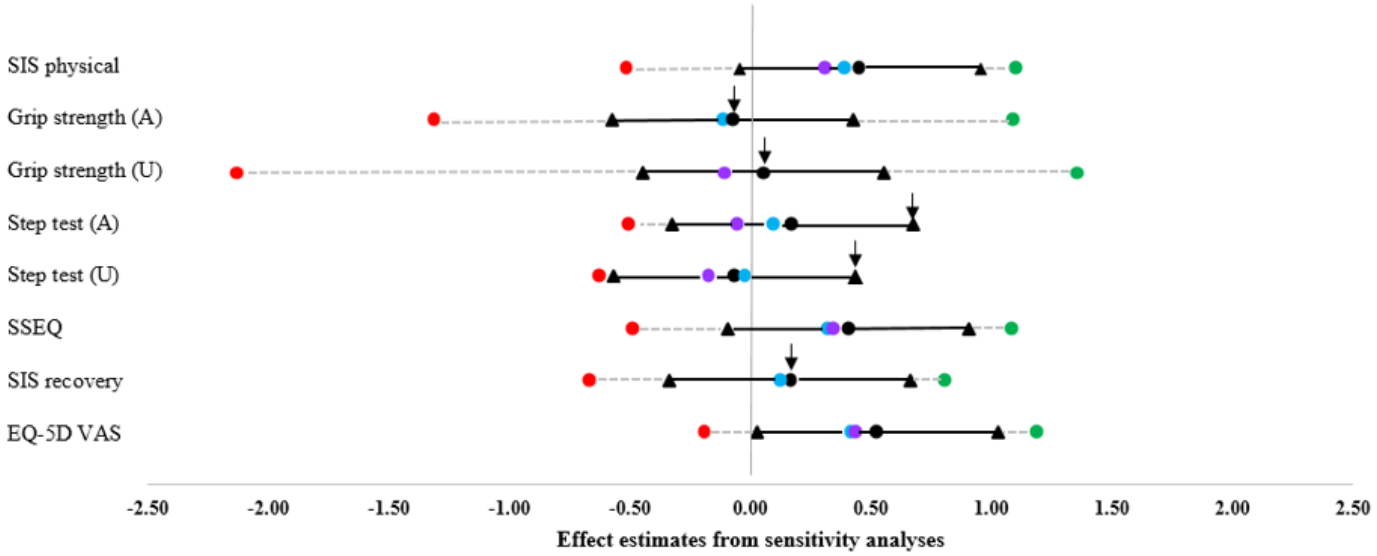
Key component	**Number who received component**
Goal identified and difficulty investigated	44
Exercises prescribed appropriate to goal	44
All 3 follow-up visits made with completed detail	34
At least 4/5 telephone follow-up visits with completed detail	37
Number of Participants who received content as per protocol	**34**

Supplemental Table X: Participant Self-report Exercise Completion (N=47)

Phone call number	All exercises competed	Some exercises completed	No exercises completed
1	33	11	0
2	32	9	1
3	26	15	0
4	23	10	2
5	25	8	3



Supplemental Figure I: Timeline for Physiotherapy Contact with Participants in the Intervention-arm of ACTIV



● : worst case for intervention; ● : intention-to-treat extension; ● : return to baseline; ● :ACTIV effect estimate; ● : best case for intervention; ▲ :upper and lower bounds 95%CI. A: affected; U: unaffected; SIS: stroke impact scale; A: affected; U: unaffected; SSEQ: stroke self-efficacy questionnaire; EQ-5D VAS: visual analogue scale to measure health status; ↓: two points overlaid.

Supplemental Figure II**:** Effect estimate from sensitivity analysis for outcome measures, selected *a priori.*

Pre-specified sensitivity analyses were undertaken for outcome measures selected a priori, to understand the possible importance of missing data and to test the confidence that could be placed in the ACTIV effect estimate given unmeasured outcomes. They involved imputing selected values into missing values using a range of alternative assumptions. Return to baseline (RTB): assumed that all missing outcome values were returned to their baseline values. Worst case for intervention (WCI): all missing outcome values were imputed with the least favourable value within the same centre and time point in the ACTIV arm and with the most favourable value in the control arm. Best case for intervention (BCI): all missing outcome values were imputed with the most favourable value within the same cluster and time point in the ACTIV arm and with the least favourable value in the control arm. Intention-to-treat extension (ITTe): the control arm average was imputed to missing values in the control arm and in ACTIV participants who had withdrawn, and the ACTIV arm average was imputed to other missing values for current ACTIV participants. Given the single-imputation nature of the sensitivity analyses, only the point estimates they yielded, and not the standard errors, were retained. A graphical display in which 95% confidence intervals for the natural parameters are standardised to have length 1 was selected to display the results.