



County Durham
and Darlington



NHS Foundation Trust

“

Definite improvement
of arm on right (paralysed)
side, much more movement.
Legs stronger when walking.

”

“

More mobility in
left arm and leg.

”

change
4 life
Eat well move more Live longer

Get Active

Exercise after Stroke Programme



“

Great to meet
other people.

”

“

I enjoyed knowing
it was tailored to
my needs/
stroke specific.

”



Healthworks

Annual Report

Introduction

County Durham and Darlington Foundation Trust, Health Improvement Service (HIS) Physical Activity Team delivered an Exercise after Stroke Programme in a community venue during 2012-2013.

The Team delivered four, 12-week programmes throughout the year which were each evaluated in the same way.

The primary aim of the 12 week programme was to provide safe, effective, evidence based physical activity sessions to ambulatory stroke survivors who had completed a course of rehabilitation post-stroke with the Community Stroke Rehabilitation Team (CSRT). The individuals needed to meet the inclusion and exclusion criteria (Appendix A) as recommended by current Best Practice Guidelines ((2010) http://www.exerciseafterstroke.org.uk/resources/Exercise_After_Stroke_Guidelines.pdf). The prescribed exercise programme was evidence-based using the STARTER design (accredited by Queen Margaret's University, Edinburgh 2007).

The main objectives of the programme were to:

- Increase fitness, strength and power in stroke survivors
- Use outcome measures to evidence clear improvements in fitness demonstrated via both qualitative and quantitative outcome measures.
- Provide and facilitate opportunities for Stroke Survivors to socialise which could result in known improvements in mental health and wellbeing.

The programme adopted a multi-agency partnership approach and worked jointly with the Easington based Community Stroke Rehabilitation Team and Healthworks to deliver the programme.

The impact of the programme was measured using an outcome measure, the Timed Up and Go (TUAG), at the beginning and end of the 12 weeks. A qualitative questionnaire was also used at the end of the 12 week programme (Appendix B).

The Programme

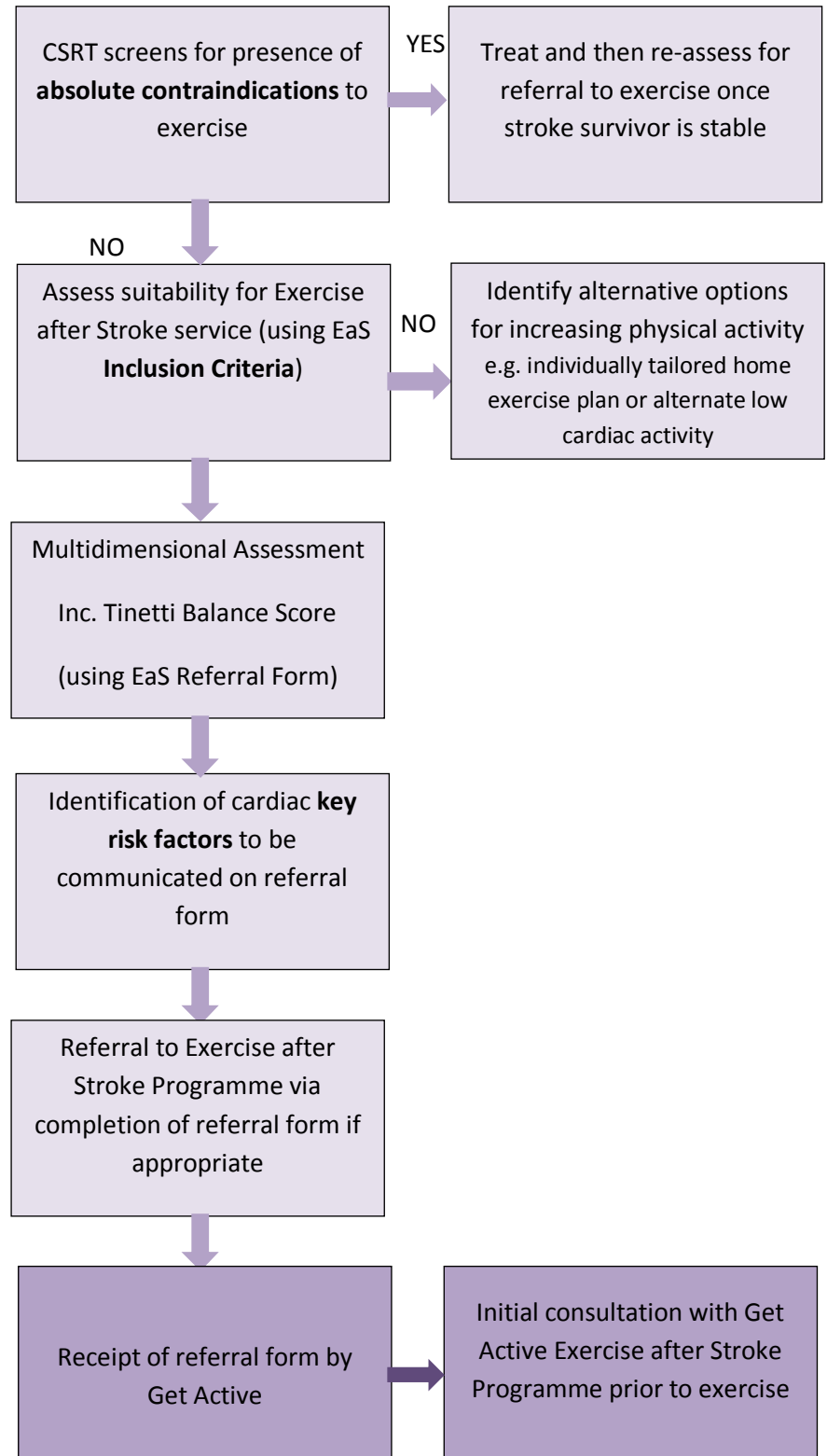
The programme consisted of twice-weekly physical activity sessions which were delivered and co-ordinated by the HIS Physical Activity Team along with session support from a Healthworks volunteer.

The physical activity session was delivered in a circuit format and based upon the evidence-based STARTER trial (Mead et al 2007). Each session included a warm up, stretches, CV component, strengthening exercises and a cool down (Appendix C), all tailored and adapted to each Stroke Survivors specific needs using stroke specific teaching points. CV exercises were gradually added into the session over the 12 weeks, starting with four stations and progressing to seven by week 12.

- **12-Week Programme**
- **Based upon STARTER**
- **1:8 ratio (instructor : patients)**
- **2 x sessions per week**
- **Initial Appointment at the beginning of the programme; TUAG, PAR-Q, SIS**
- **Reduced rate cost @ £1.50 per session**
- **TUAG outcome measure conducted at 12 weeks**
- **Evaluation questionnaire used at 12 weeks**

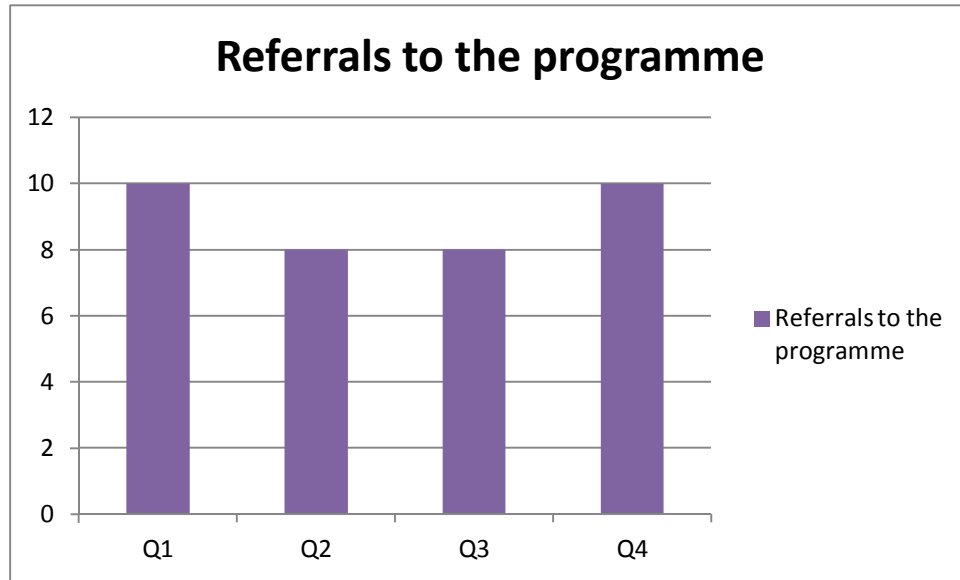
Referrals

Recruitment for the programme was via the Community Stroke Rehabilitation Team who identified appropriate patients who met the service inclusion criteria following the referral process below:



Referrals were received on a quarterly basis during the year prior to each 12 week programme.

Graph 1



As Graph 1 shows, referral numbers were consistent throughout the year with a total of 36 patients referred in 2012-13. Patients had to meet the referral criteria for the programme to be eligible for referral, express a desire to attend and a level of motivation to adhere to an exercise programme.

Recruitment to The Programme

Upon receipt of the referral, patients were contacted by the HIS Physical Activity Team to invite them to an initial appointment.

The aim of the appointment was to screen the patient prior to exercise; including gathering detail on their medical history, stroke specific impairments, limitations, and the degree of communication deficit e.g. aphasia, dysarthria, and medications using a registration form (Appendix D) as recommended by NICE Guidance (Stroke Rehabilitation; Long-term rehabilitation after stroke Issued: June 2013 NICE clinical guideline 162)

The patient's readiness to exercise was assessed at this point due to the impact that Stroke can have on patients fatigue levels and mental health and well-being.

At the initial appointment the TUAG outcome measure was conducted with all patients, using protocols from the LaterLife Exercise after Stroke Training Manual (Appendix E). The patient was informed that the outcome measure would be performed again after 12 weeks to demonstrate the impact of attending the programme.

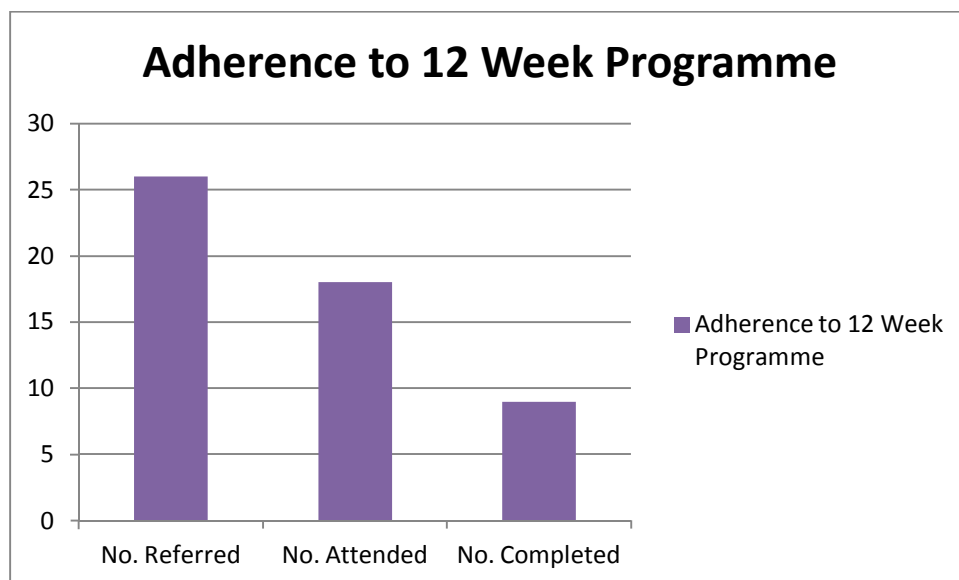
Lastly, an introduction to the facilities and HIS Physical Activity Team were important so that the patient was familiar with their surroundings and knew who they would be meeting at the first exercise session.

Adherence

The population groups referred were all Stroke Survivors who had a mixture of other co-morbidities.

Number referred	Number commenced programme	Number completed programme
36	18 (69%)	9 (35% of referrals) (50% of participants)

Graph 2



Out of the total referrals, eighteen (69%) commenced the programme by either attending an initial appointment and/ or presenting for an exercise session.

The number completing a twelve week programme was nine which equates to 50% of those who commenced the programme. As a comparison, the National Exercise Referral Scheme in Wales (2010) found a 44% completion rate in their national research study at 12 weeks. Similarly the Get Active Exercise Referral Scheme (East Durham based) 2012-13 currently has a 12 week completion rate of 40%.

Reasons for not completing the twelve week programme were secondary occurrence of CVA, other illness, family commitments and transport, all of which can have an impact on motivation, ability and long – term exercise adherence.

To reduce barriers to exercise, patients were encouraged to bring along a friend/family member for support which many did. A local patient transport service

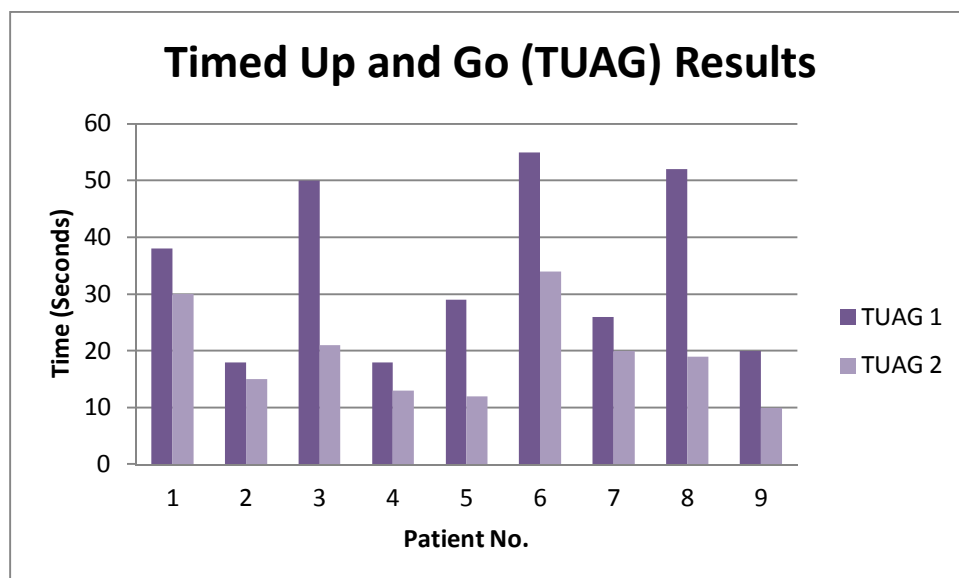
was used by a number of patients, which also helped by offering a low-cost transport option and provided a familiar face by using the same few drivers each week.

Impact Outcomes

The outcome measure (TUAG) was used at the beginning and end of the twelve week programme with each patient.

A Timed Up and Go is a 3 metre walk test, beginning with the patient seated to standing, walking 3 metres, turning around then returning to the sitting position. This particular tool was chosen to cater for the huge variety of walking ability that is present in Stroke Survivors as well as simulating ADL's such as walking, sitting, returning to standing and turning. Similar outcome measures are available but considered too far in distance for some Stroke Survivors to be able to complete therefore not being equitable for all.

Graph 3.



Graph 3 shows the time taken in seconds for the patient to complete the TUAG. The first measure is shown in dark purple with the repeat TUAG after 12 weeks being shown in light purple. Overall, 100% of patients showed an improvement by decreasing the time taken to complete the TUAG therefore demonstrating an increase in leg power, strength and fitness in all patients.

Table 1.

Patient No	TUAG 1	TUAG 2	% Decrease
1	38	30	21%
2	18	15	17%
3	50	21	58%
4	18	13	28%
5	29	12	59%
6	55	34	38%
7	26	20	23%
8	52	19	63%
9	20	10	50%

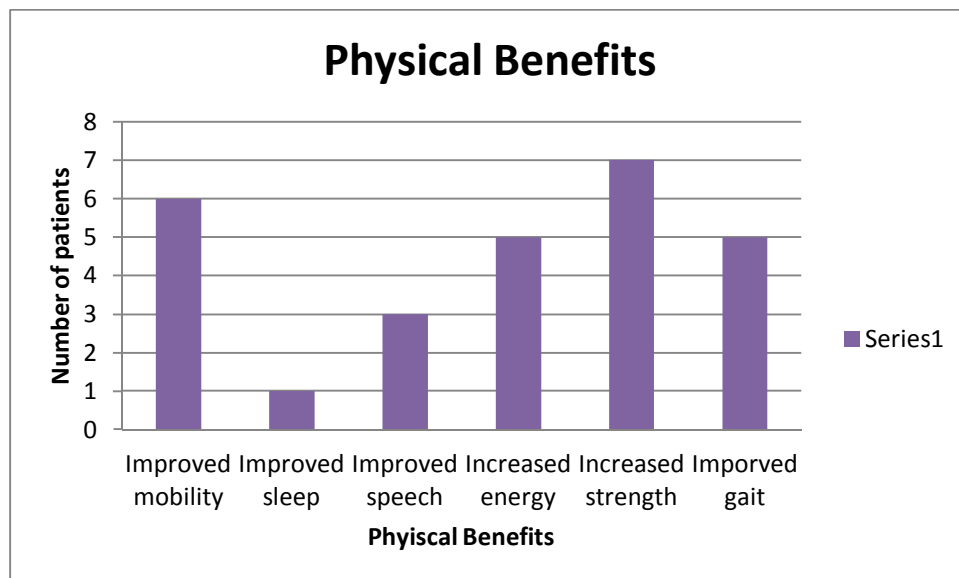
The percentage decrease in time taken can be seen inTable1. This result ranged from 17% up to 63% with an average of a 40% decrease in time taken to complete the TUAG.

Qualitative Impact Outcomes

Patients who completed the twelve week programme were all asked to complete a qualitative questionnaire to evaluate the effect of the programme from a physical, psychological and social perspective. The results are shown below:

1. What physical benefits have you experienced since you started the EaS Programme?

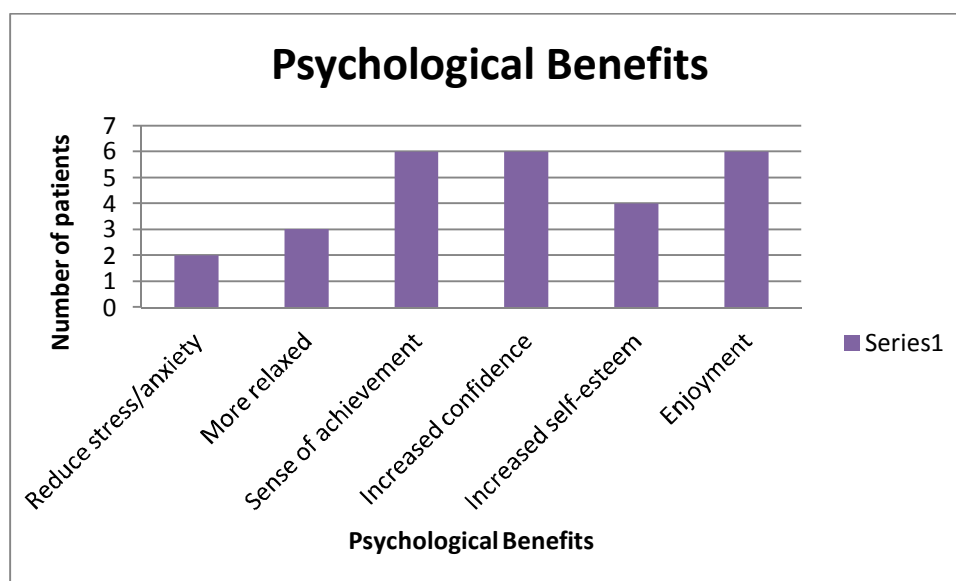
Graph 4



Graph 4 shows the most improved aspects were strength (78%) and mobility (66%). One of the aims of the programme was to increase strength. This has been shown to have been achieved by the results in the TUAG and the self-reported evaluation.

2. What psychological benefits have you experienced since you started the EaS Programme?

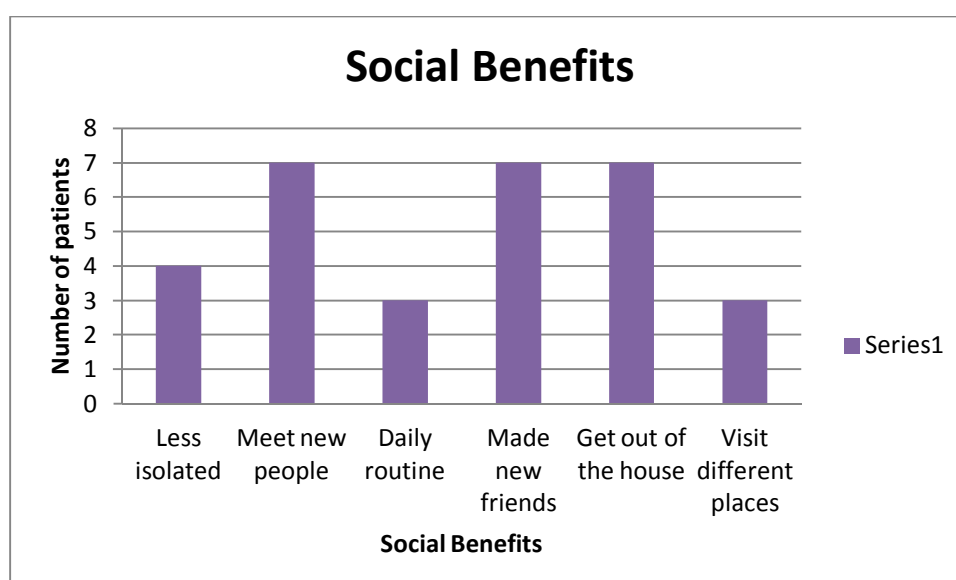
Graph 5



Graph 5 shows the most self-reported psychological benefits at 66%, were an increased sense of achievement, increased confidence and enjoyment.

3. What social benefits have you experienced since you started the EaS Programme?

Graph 6



Graph 6 shows the social benefits experienced from attending the programme. 78% of patients reported meeting new people, making new friends and getting out of the house, which all contribute to an improvement in mental well-being.

4. **Have you noticed an improvement in their impaired side?** Of those who had a noticeable impairment, they reported:

- “More mobility in left arm and leg”
- “Definite improvement of arm on right (paralysed) side, much more movement”
- “Legs stronger when walking”
- “Noticeable improvement in left side and stronger”

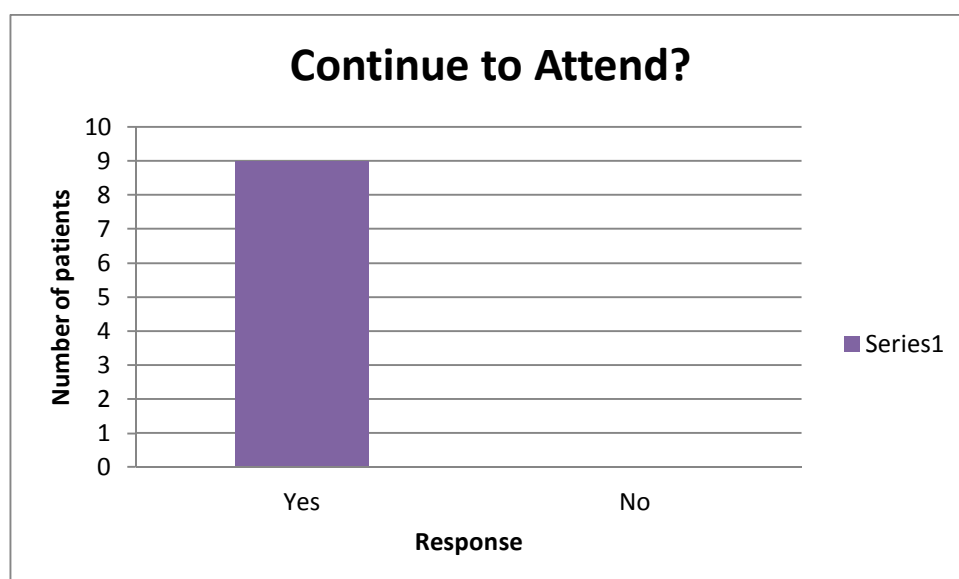
5. **What have you found the most enjoyable about the sessions?**

- “Patient able to go at own pace”
- “Sociability and friendliness of classmate, especially when we joined a new group”
- “Very good and considerate leaders
- “Meeting new people”
- “Meeting other people and lovely staff”

Noticeably, the entire responses above are related to psychological and social benefits as opposed to physical benefits. This may well give an indication as to the importance of these aspects for a Stroke Survivor.

6. **Would you like to continue to attend appropriate Get Active sessions after the 12 week EaS Programme?**

Graph 7



Graph 7 shows that when asked if they would like to continue to attend Get Active sessions after the twelve week programme, 100% of patients who completed the programme wished to continue with long-term exercise.

Case Studies

To further evidence the improvements patients have experienced from attending the EaS Programme, patients who attended the twelve week programme and have continued to attend an EaS exit class have provided more detailed information on their experiences. Two of the case studies are shown below:

Patient A

I was referred to the EaS Programme as I had very little mobility, especially down my right side due to paralysis after a stroke. I had to learn to walk again and had no use of my right arm.

This programme has been a huge benefit to me because after a stroke you need constant help as the brain heals not just a 6 week course. I have now been attending for eleven months and I can now walk slowly which enables me with help to go out for walks and gives a boost to my confidence. I now have lots of movement in my right arm, I just need to now learn how to use it.

I would say to anyone who is considering joining the programme to definitely join this group. It has a great success of improvement in all its patients. It also is a great boost to your confidence to see your improvement and to socialize with people who are also stroke survivors. It is a group that goes to your individual pace and requirements.

I will use my Get Active experience to move forward in my life to hopefully to continue to progress and keep going to the exercise class to give me more confidence and independence. I cannot thank Lucy and Lauren (instructors) enough for their expert help and patience, they have helped so much. I would not be so far on today without this group.

Patient B

I was referred to the EaS Programme as the physios had done as much as they could for me and felt I was ready to go onto something more varied to help my strength, balance and co-ordination.

The programme has helped me as my strength and balance has greatly improved, as has my general fitness.

I would say to anyone who was considering joining the programme that I would recommend it. Not only does it benefit you physically but the social meeting with people in a similar situation mentally helps as well.

I will use my Get Active experience to move forward in my life by continuing with sensible exercise to improve further and hopefully prevent another stroke or bad health.

Photos of the Groups







Appendices

A – Inclusion and Exclusion Criteria

B – Evaluation Form

C – Session Plan

D – Registration Form

E – Timed Up and Go Protocol

Appendix A

Exercise after Stroke (EaS) Inclusion Criteria

- Able to sit in any seat independently (time unlimited)
- Able to mobilise more than 5m with or without a walking aid, independently or supervised
- Patients with aphasia must have communication strategies in place to allow safe participation
- Resting heart rate maximum of 100bpm
- Blood pressure maximum 180 mmHg systolic/100mmHg diastolic
- Tinetti score minimum 12/28

*Tinetti – balance gait test to assess risk of falls

Exercise after Stroke (EaS) Absolute Contra-indications

- Recent electrocardiogram changes suggesting recent myocardial infarction
- Severe stenotic or regurgitant valvular heart disease
- Uncontrolled arrhythmia, hypertension and/or diabetes
- Unstable angina
- Third degree heart block or acute progressive heart failure
- Acute aortic dissection
- Acute myocarditis or pericarditis
- Acute pulmonary embolus or pulmonary infarction
- Deep venous thrombosis
- Extreme obesity, with weight exceeding the recommendations or the equipment capacity (usually >159kg/350lbs)
- Suspected or known dissecting aneurysm
- Acute infections
- Uncontrolled visual or vestibular disturbances
- Recent injurious fall without medical assessment

(American College of Sports Medicine (ACSM) 2010)

Appendix B



Exercise after Stroke Evaluation Form

Participant Details

Surname:		First Name:	
NHS Number:		D/O/B: *	DD/MM/YYYY

Please take your time to complete this questionnaire which deals with your experience of the Exercise after Stroke Programme.
Your feedback is very valuable to assist in shaping a high quality service and excellent delivery.

What physical benefits have you experienced since you started the EaS Programme? (Please tick)

Improved Mobility	<input type="checkbox"/>	Increased Energy	<input type="checkbox"/>
Improved Sleep	<input type="checkbox"/>	Increased Strength	<input type="checkbox"/>
Improved Speech	<input type="checkbox"/>	Improved Walking Gait	<input type="checkbox"/>

What psychological benefits have you experienced since you started the EaS Programme? (Please tick)

Reduce Stress/Anxiety	<input type="checkbox"/>	Increased Confidence	<input type="checkbox"/>
More Relaxed	<input type="checkbox"/>	Increased Self Esteem	<input type="checkbox"/>
Sense of Achievement	<input type="checkbox"/>	Enjoyment	<input type="checkbox"/>

What social benefits have you experienced since you started the EaS Programme? (Please tick)

Less isolated	<input type="checkbox"/>	Made new friends	<input type="checkbox"/>
Meet new people	<input type="checkbox"/>	Get out of the house	<input type="checkbox"/>
Daily Routine	<input type="checkbox"/>	Visit different places	<input type="checkbox"/>

Name		D.O.B		NHS Number	
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Have you noticed any improvements in your impaired side? If so, please give details below.

How would you rate the venue where the sessions were delivered?

Poor									Excellent
1	2	3	4	5	6	7	8	9	10
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

What have you found the most enjoyable about the sessions?

What have you found the least enjoyable about the sessions?

Name		D.O.B		NHS Number	
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Can you suggest any changes to the EaS Programme that would improve or enhance the service?

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Would you like to continue to attend appropriate Get Active sessions after the EaS Programme?

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
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Thank you for taking the time to complete this questionnaire – your views are extremely important to improve the Get Active programmes we offer.

Appendix C

12 Week Session Plan

[illegible]

[illegible]

Appendix D



Get Active Exercise after Stroke Registration Form

County Durham
and Darlington
NHS Foundation Trust

Participant Details

Surname: *		First Name: *					
Address: *		Preferred Name:					
		NHS Number:					
		Telephone No: *					
Postcode: *		Mobile No: *					
Email:							
D/O/B: *	DD/MM/YYYY	Gender: *	<table><tr><td>Male</td><td></td><td>Female</td><td></td></tr></table>	Male		Female	
Male		Female					
GP Surgery: *							
Please provide the name and telephone number of someone who can be contacted in an emergency:	Name	Contact Number					

What is your ethnic origin? (please circle the one which applies to you)

Black or Black British: Caribbean / African / Any other Black British background (please state)

Asian or Asian British: Indian / Pakistani / Bangladeshi / Sri Lankan / Any other Asian Background (please state):

White: British / Irish / Any other White background (please state)

Chinese or other Ethnic Group: Chinese / Any other Chinese or other Ethnic Group (please state)

Mixed: White and Black Caribbean / White and Black African / White and Asian / White and Arab / Any other Mixed background (please state)

Arabic or Middle Eastern: Arab / Iranian / Any other Arabic/Any other Middle Eastern Group (please state)

If other please state _____

Do you need an interpreter?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	Language Spoken	
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Contacting you

As part of the Get Active programme we will need to contact you to discuss your progress, promote new activities and offer you support. Please complete the information below on how best to contact you

Can we contact you in the future?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
How is it best to contact you?				
Telephone	<input type="checkbox"/>			
Email	<input type="checkbox"/>			
Post	<input type="checkbox"/>			

Name		D.O.B		NHS Number	
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Exercise after Stroke Consultation – Informed Consent

Please read the information below and sign at the bottom if you wish to proceed

Informed Consent

All Exercise after Stroke Consultations will only be conducted with your complete consent. All content within your personal report is provided for general information only and should not be treated as a substitute for medical advice for your own doctor.

Confidentiality

All personal information and results will be kept completely confidential and stored in line with the Data Protection Act. Data may be stored on paper and electronically and used anonymously for NHS evaluation purposes only.

I have read and understood the content of the above information and I know of no reason why I cannot take part in the Exercise after Stroke Programme.

Client Signature	
Print Name	
Date	

Name		D.O.B		NHS Number	
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Medical History (Stroke Specific) - To be completed by a member of the CSRT

Date of Stroke	DD/MM/YYYY	Classification of Stroke (using OCSP)	
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Impairments	Tick if applicable	Please provide details below:
Chronic Fatigue	<input type="checkbox"/>	
Hearing Impairment	<input type="checkbox"/>	
Visual Impairment	<input type="checkbox"/>	
Cognitive/Perceptual Impairment	<input type="checkbox"/>	
Use of Aids e.g. walking	<input type="checkbox"/>	

Medical History-Co-Morbidities

1. Has a doctor or healthcare professional ever said you have high blood pressure?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
2. Has a doctor or healthcare professional ever said you suffer from heart condition?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
3. Do you have Type 2 Diabetes?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
4. Do you have chronic asthma or COPD?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
5. Have you been diagnosed with anxiety or depression?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
6. Do you have a joint or back problem?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
7. Has a doctor or healthcare professional ever said you have kidney disease?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
8. Has a doctor or healthcare professional ever said you have high cholesterol?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
9. Have you ever completed a NHS Health Check – in last 5 years?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
10. Do you have any other medical conditions that we haven't discussed?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
If yes please give details:				
11. Are you currently taking any medication?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
If yes please give details:				

Name		D.O.B		NHS Number	
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Exercise Considerations and Limitations

Consideration	Tick if applicable	Please provide details below:
Tone/Spasticity	<input type="checkbox"/>	
Contractures	<input type="checkbox"/>	
Poor balance/strength	<input type="checkbox"/>	
Gait	<input type="checkbox"/>	
Ability to self-monitor	<input type="checkbox"/>	
Able to transfer self	<input type="checkbox"/>	
Readiness to exercise	<input type="checkbox"/>	
Access to Transport	<input type="checkbox"/>	
Current Physical Activity Levels	<input type="checkbox"/>	e.g. Walks 10 mins a day

Rehabilitation History

Professional Input	Tick if applicable	Please provide details below:
Specialist Nurse	<input type="checkbox"/>	
Physiotherapist	<input type="checkbox"/>	
Occupational Therapist	<input type="checkbox"/>	
Speech Therapist	<input type="checkbox"/>	
Orthotist	<input type="checkbox"/>	

Physical Activity Levels (7 Day Recall)

Please tell us the number of hours spent doing the following activities (to the nearest half hour)

On average, how many hours sleep did you sleep during the last 7 nights?	
How many hours did you spend, in the last 7 days, doing moderate activities or other like them?	

How many hours did you spend, in the last 7 days, doing hard activities or other like them?	
How many hours did you spend, in the last 7 days, doing very hard activities or other like them?	

In the past week, on how many days have you done a total of 30 minutes or more physical activity, which was enough to raise your breathing rate?	

Readiness to exercise

On a scale of 0 – 10 how motivated are you to become physically active?										
0	1	2	3	4	5	6	7	8	9	10

Support Required

Get Active can provide you with additional support to become more active, this maybe through a single appointment or on-going support. Would you be interested in receiving support from Get Active to become more active?			
Yes		No	

Are there any other topics which you would be interested in being Signposted to OR receiving information about?			
Stopping smoking	<input type="checkbox"/>	Healthy Eating	<input type="checkbox"/>
Weight Management	<input type="checkbox"/>	Other (please state)	<input type="checkbox"/>

Goal Setting

Short-Term Goal: (<4 weeks)	
Mid-Term Goal: (<12 weeks)	
Long-Term Goal: (<6 months)	

Do you have any barriers that prevent you from taking part in physical activity?

Barrier	Solution
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Name		D.O.B		NHS Number	
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Family Commitments	<input type="checkbox"/>	
Work Commitments	<input type="checkbox"/>	
Travel	<input type="checkbox"/>	
Health Problems	<input type="checkbox"/>	
Lack of motivation	<input type="checkbox"/>	
Cost	<input type="checkbox"/>	
Other:	<input type="checkbox"/>	

Which sessions are suitable for the client to attend?

	Wednesday	Friday
Healthworks		

Number of sessions client attending per week

Client Declaration

1. I understand that I may take part in sessions unless the instructor has concerns and recommends otherwise.
2. You must advise the Get Active before each session if your medical history has changed.
3. This information will be kept for Get Active Records only and in accordance with the provisions of the Data Protection Act 1998. I consent to this information being shared with other Leaders and key partners involved in the delivery of Get Active programmes

Client Signature		Date	DD/MM/YYYY
Surname:		First Name:	

Photographic Consent

- ☐ I consent to photographs or video being taken whilst participating in the above said visit/activity.
- ☐ I do not consent to photographs or video being taken whilst participating in the above said visit/activity.

Any photograph(s)/video(s) taken will be used purely for promotional/publicity purposes only and will be held in accordance with the provisions of the Data Protection Act 1998

CDDFT Staff Declaration

1. I have reviewed the information provided by the above client
2. I have advised the client the most appropriate pathway for their medical history and current lifestyle

Staff Signature		Date	DD/MM/YYYY
Surname:		First Name:	

Appendix E

TUAG Protocol

The Timed Up and Go (TUAG) test is used to measure basic functional mobility in older adults. Participants are timed in seconds, starting from a seated position, to stand up, walk 3 meters (10 feet), turn, walk back, and sit down again.

Participants will be assessed and scored at the first and last sessions of a Matter of Balance.

The participant scores **MUST** be recorded on the ***Timed Get Up and Go Log*** following each assessment.

Following the last assessment a ***Timed Get Up and Go Personal Record*** will be completed for each participant and given to the individual for their own records.

Preparation:

Ensure the following is available:

TUG EQUIPMENT NEEDED:

Standard Arm Chair

Stop Watch (0.00)

1 Cone

Tape Measure

Pen

Prior to class set up the TUAG by:

- Placing a chair where it will be stable and positioned such that it will not move when the participant moves from sitting to standing.
- Measure 10 feet from the front of the chair.
- Place a cone on the floor so that it is easily seen by the participant.
- Following the completion of surveys during class session 1 read the ***Timed Up and Go Script*** and record willing participants on the ***Timed Up and Go Log***.
- Explain to the volunteers that the testing will begin directly following the session.

Administration

Begin with the participant sitting in an arm chair with feet flat on the floor.

Provide the following instructions for the participant:

"The Timed Up and Go measures how long it takes you to do something you probably do every day. I'll ask you to sit in this chair and when I say 'ready, begin', you'll stand up from the chair, walk around the cone (about 10 feet), walk back to the chair, and sit down. (Demonstrate the task). Please walk safely and at a pace that is comfortable for you. We'll do this today and again at the end of the last session and we'll look to see how you've done. You may walk through the test once before being timed in order to become familiar with the test."

Answer any questions the participant may have.

Begin the Assessment

When testing say 'Are you ready? Begin!'

Start timing on the words 'ready, begin'

Stop timing when the participant returns to the chair and sits down (buttocks touch the chair).

Participant Safety:

Participants included in the TUAG will be those who agree to participate and can ambulate with or without an assistive device.

Participants will wear their regular footwear and may use any gait aid that they normally use during ambulation.

There is no time limit to complete the TUAG. Participants may stop and rest (but not sit down) if they need to.

Participants may not be assisted by another person. The tester will provide standby assistance as the participant performs the TUAG.

