

# **Bridges self-management for stroke survivors in the community: A feasibility RCT**

**McKenna S, Lennon S, Glenfield P, Gardner E, Jones F**  
In collaboration with the SEHSCT Community Stroke Team

**Key contact: Dr Sheila Lennon**  
[s.lennon@ulster.ac.uk](mailto:s.lennon@ulster.ac.uk)

REC Reference: 08/NIROI/67

Funded by NICHS (Ref: 2008 103)

# Rationale for research

- Psychosocial factors and coping mechanisms have a key impact on quality of life (Robinson & Pizzi, 2003; Donnellan et al, 2006; Jones et al, 2007).
- **Self-management** “...Collaboratively helping individuals and their carers to develop knowledge, skills and confidence to care for themselves and their condition ...”(DoH, 2005).
- **Self-efficacy** “the belief that an individual has about their own capability to be able to produce a particular outcome” (Bandura,1997) .
- There is limited evidence for self-management interventions specific to stroke survivors (Jones et al, 2009).

# The Bridges Programme

- A self-directed but professionally supported workbook to directly focus on enhancing self efficacy in order to improve patients' self-management skills (Jones 2005).
- Each section of the workbook specifically targets the sources of self-efficacy researched by Bandura (1977).
- The Stroke Workbook includes:
  - Vignettes of 14 stroke survivors
  - A diary section for setting small weekly personal targets

[www.bridges-stroke.org.uk](http://www.bridges-stroke.org.uk)

## Comfort



Comfort was 53 when she noticed a weakness in her left side. The next day she couldn't stand or use her left hand.

Comfort spent 3 weeks on a general medical ward but discharged herself after feeling depressed about being in hospital. Coming home was difficult at first but she made small improvements and finally believed in her progress.

5 years on, Comfort now walks short distances on her own, and travels by bus. She continues to work on strengthening her weakened arm.

Comfort feels her courage and perseverance have been the main factor in her progress so far. Her current target is to tie a scarf around her head using both hands.

When it happened, I knew something was wrong, but I couldn't believe it was a stroke. I couldn't even get up and wash myself and had to have people come and help me. I slept downstairs and used a commode. When the carers had gone my poor husband had to do it all. I felt awful.

## KEEPING ACTIVE

### Fred

- Linking my fingers together
- Polishing the table
- Reading newspaper in the garden



We do polishing exercises, stretching and massage. Initially my hand was scrunched up, now it will lay flat. I couldn't say a word at first, now I just get on with chatting to people. It's great when people understand me, that's when I think I've won.

## What do I do now?

People have found it helpful to think about how smaller targets can help towards achieving longer term future goals. For example, Brian's longer term goal was to take the bus to his local shopping centre. He set the following short term targets to help him achieve it:

- **Step 1:** Open the front door
- **Step 2:** Walk a short distance outside
- **Step 3:** Cross the road
- **Step 4:** Walk to the bus stop
- **Step 5:** Get on a bus with my partner
- **Step 6:** Get on a bus on my own
- **Target:** Go to the shopping centre by bus

Use the following pages to work through the process with your therapist. You can write down your own short term targets and record your progress towards achieving them.

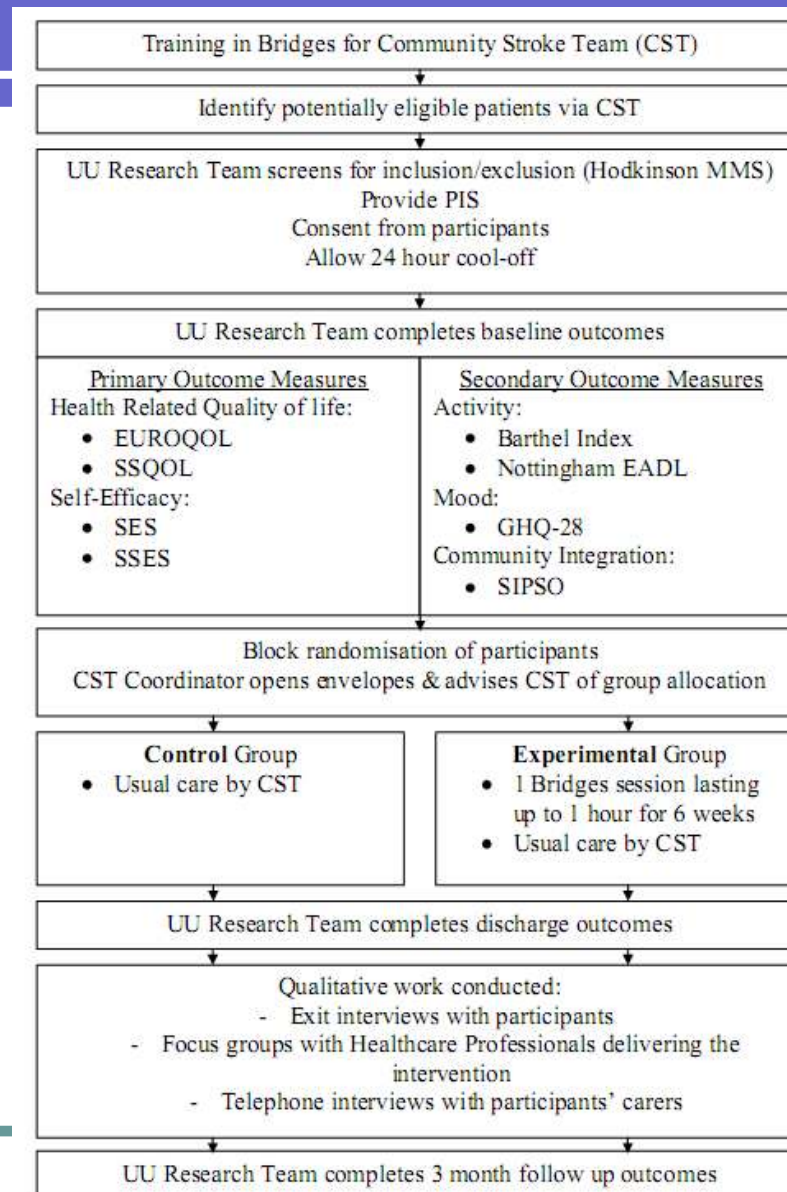


# Aims of RCT

This RCT aimed to:

- Explore the feasibility of delivering the Bridges stroke self-management programme in a community setting.
- Investigate the acceptability of this intervention to all stake holders using focus groups and exit interviews with stroke survivors, their carers and the health care professionals involved in Bridges.
- Identify changes in self-efficacy and quality of life with the Bridges programme in comparison to usual care.

# Overview of the Bridges RCT



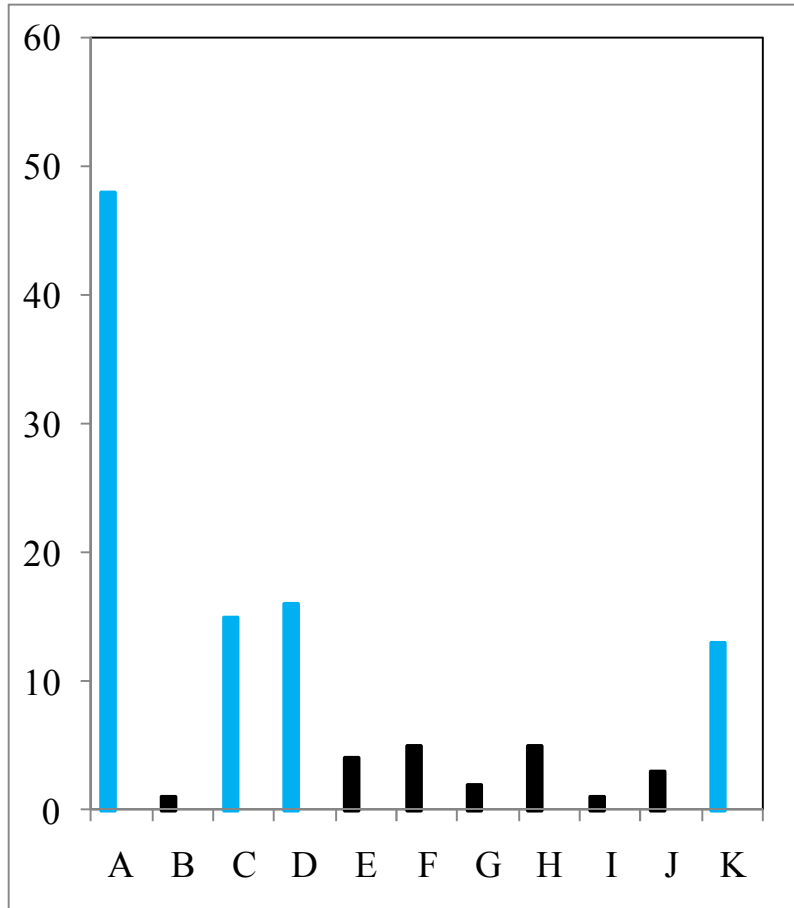
# Selection Criteria

<b>Exclusion Criteria</b>	<b>Inclusion Criteria</b>
Hodkinson's 10 point mini mental score $\leq 6$	Clinical diagnosis of stroke
Serious hearing and visual problems	
Issues with readiness to participate (e.g. unwell carer)	New referrals or within 4 weeks of commencing rehabilitation with the CST
Neglect (star cancellation score $<48/52$ )	
Competing co-morbidities (e.g. cancer)	Able to follow a two-stage command
Requiring 1-2 advice sessions on review only	

# Recruitment

- Recruitment over 15 months (Feb '09 - May '10)
- 152 new referrals; 13 individuals omitted over a 6 week period
- 25/139 referrals were enrolled (18 %)
- Last 3 month outcomes Oct 2010

# Reasons for exclusion

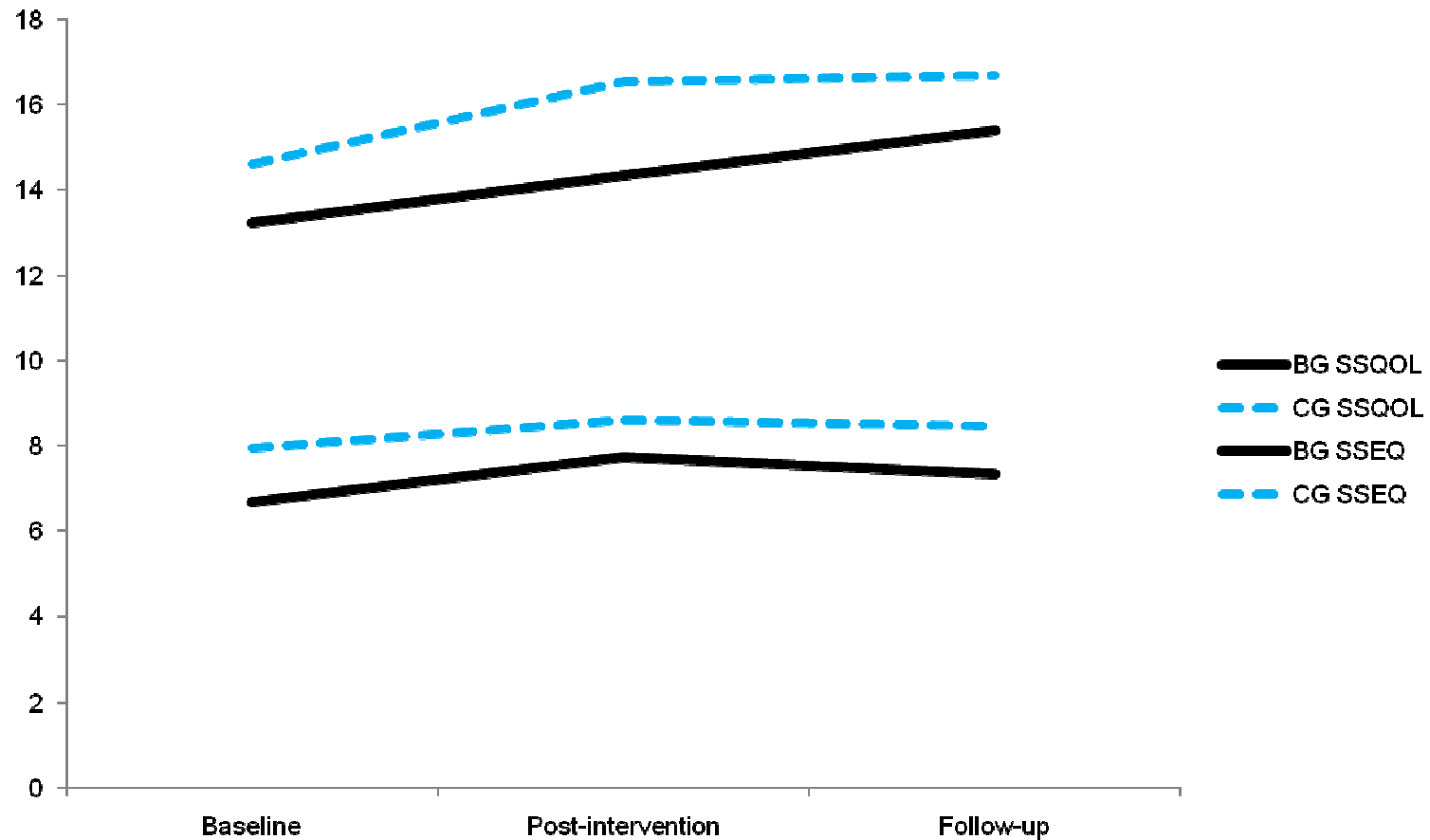


Expected treatment time < 6wks	A	48
In community hospital/ Inpatient	B	1
Memory/ cognitive problems	C	15
Did not wish to participate in programme	D	16
Readmitted to hospital	E	4
Poor Rehab potential	F	5
Unusual diagnosis/ differential diagnosis	G	2
Competing co-morbidity	H	5
Deceased	I	1
Rehab of old CVA	J	3
Other	K	13

# Participant Characteristics

	<b>Bridges (N=11)</b>	<b>Control (N=13)</b>	<b>P VALUE (Mann Whitney)</b>
	<b>Mean (SD)</b>	<b>Mean (SD)</b>	
<b>AGE</b>	62.18 (13.57)	67.38 (10.60)	0.31
<b>WEEKS POST STROKE</b>	7.00 (4.45)	11.38 (12.70)	0.28
<b>BARTHEL INDEX (Max=20)</b>	14.09 (5.30)	17.08 (3.40)	0.10
<b>NEADL (Max=63)</b>	26.00 (14.19)	34.38 (17.44)	0.31
<b>SSEQ (Max=10)</b>	6.68 (2.56)	7.94 (1.85)	0.20
<b>SSQOL (Max=20)</b>	13.22 (2.35)	14.62 (3.42)	0.16

# SSQOL and SSEQ - Means



# Mean Change Scores for Primary Outcomes

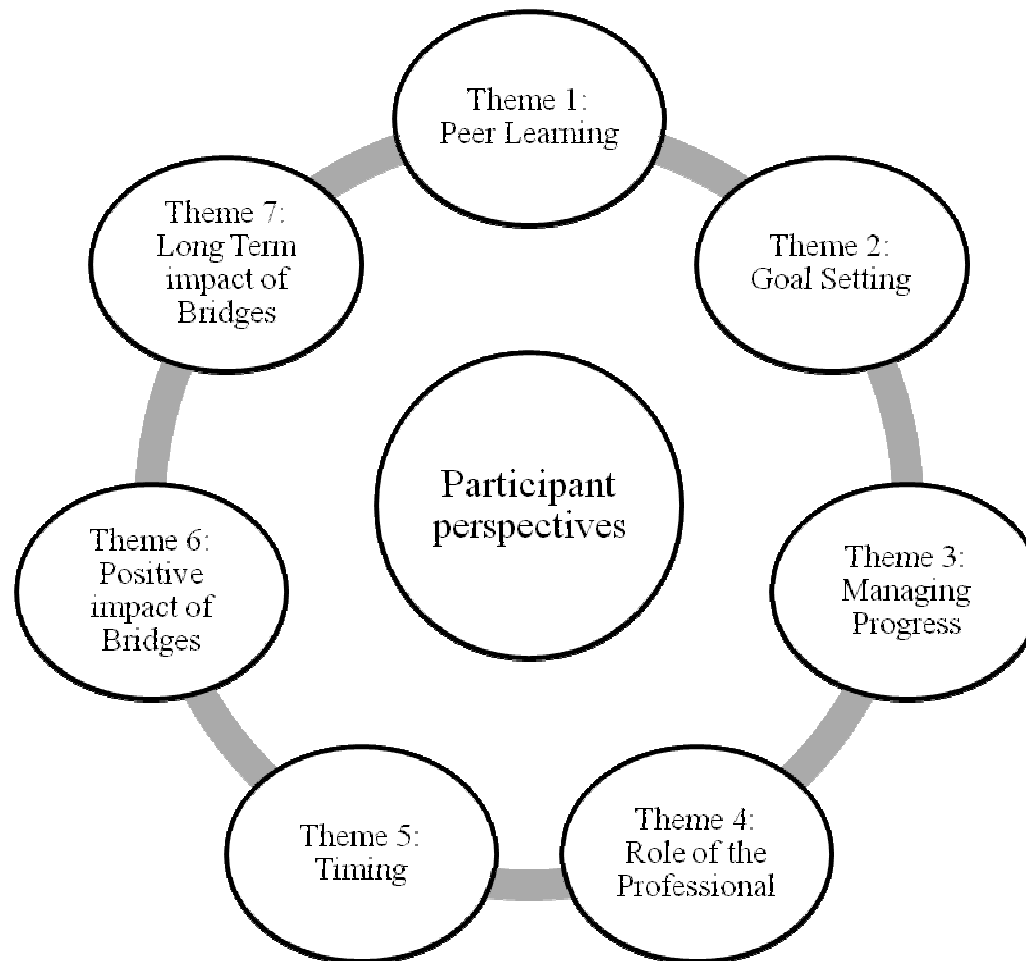
Outcome	Group	Baseline to Post-Intervention (wk7) Mean (SD)	Post-Intervention (wk 7) to Follow-up (3 months) Mean (SD)	Baseline to Follow up (3 months) Mean (SD)
SSES (AVERAGE)	Bridges	<b>1.04 (1.22)</b>	-0.39 (0.84)	0.65 (1.22)
	Control	0.65 (0.80)	-0.15 (1.29)	0.51 (1.73)
SES (AVERAGE)	Bridges	<b>0.79 (1.83)</b>	-0.51 (1.32)	0.28 (1.66)
	Control	0.36 (0.82)	0.22 (1.72)	0.55 (2.09)
SSQOL (AVERAGE)	Bridges	1.11 (1.91)	<b>1.05 (0.76)</b>	<b>2.16 (2.33)</b>
	Control	1.94 (1.77)	0.12 (2.09)	2.06 (1.55)
EUROINDEX	Bridges	0.09 (0.26)	<b>-0.05 (0.15)</b>	0.04 (0.31)
	Control	0.15 (0.36)	-0.09 (0.42)	0.06 (0.26)
EURO B	Bridges	<b>0.13 (0.17)</b>	<b>0.02 (0.25)</b>	<b>0.15 (0.24)</b>
	Control	0.12 (0.12)	-0.02 (0.23)	0.10 (0.21)

# Mean Change Scores for Secondary Outcomes

Outcome	Group	Baseline to Post-Intervention (wk7) Mean (SD)	Post Intervention (wk 7) to Follow-up (3 months) Mean (SD)	Baseline to Follow up (3 months) Mean (SD)
GHQ (TOTAL)	Bridges Control	-8.45 (6.93) -11.31 (11.97)	0.45 (6.31) 2.77 (16.98)	-8.00 (5.37) -8.54 (8.87)
SIPSO (TOTAL)	Bridges Control	<b>7.55 (8.04)</b> 4.77 (4.78)	0.55 (4.25) 4.08 (7.74)	8.09 (7.41) 8.85 (7.96)
BARTHEL (TOTAL)	Bridges Control	<b>1.73 (1.95)</b> 1.46 (2.15)	0.73 (1.27) -0.08 (1.85)	<b>2.45 (2.50)</b> 1.38 (2.84)
NEADL (TOTAL)	Bridges Control	<b>17.40 (13.57)</b> 12.69 (11.43)	2.09 (7.48) 4.23 (10.40)	<b>18.80 (15.22)</b> 16.92 (14.04)

# Emerging themes from patients

(N=9/11)



# Stroke Survivor Quotes

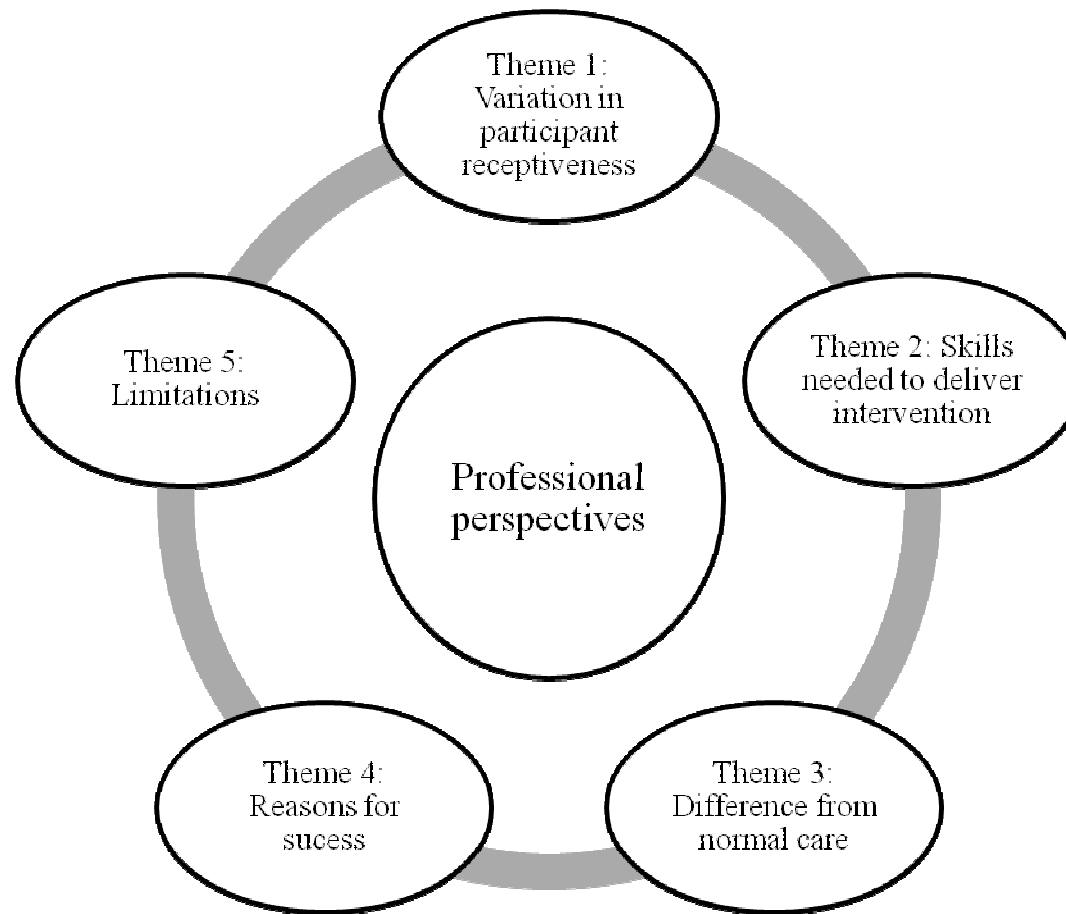
*“ . . . it’s a tool to help you manage and see your progress because I think if left on your own without the stroke team and the Stepping Out [Bridges] that you wouldn’t be able to monitor your progress and see the changes that you do make over that period of weeks and by seeing the changes, the motivation then gets better so that you can get on with life quicker and put the effects of the stroke and see that things can change and improve.”*

***Participant E (Theme 3: Managing progress)***

*“ . . . I know that several areas that we chatted about and set as goals were met and therefore there was an improvement because the goals were setting different standards in behaviour and things like that. So the fact that they are met clearly was a statement that I was getting better, getting more active, getting more positive, so from that point of view it was very useful.”*

***Participant B (Theme 6: Positive Impact of Bridges)***

# Emerging themes from the stroke team



# CST Quotes

*“I do feel that I use that when I am explaining the workbook, and I’m explaining, there’s definitely a difference from my normal goal setting”*

***Participant A (Theme 3: Difference from normal care)***

*“A reflective listening, not just listening but really listening to what they are saying even to be able to weed out with the patient what are the important points”*

***Participant B (Theme 2: Skills required for the intervention)***

# Conclusion

- Bridges was feasible to implement and acceptable to all stakeholders.
- Both groups improved post-intervention.
- The Bridges group demonstrated more positive change in both measures of self-efficacy, of activity (in particular for the NEADL) and social integration (SIPSO) post intervention.
- The Bridges self-management intervention changed self-efficacy as intended.
- For the Bridges group, there was a protective effect on participants' quality of life at follow up for QoL.
- This feasibility RCT confirms that the Bridges self-management programme for stroke warrants further investigation.

# Acknowledgements

- Stroke survivors
- Northern Ireland Chest Heart and Stroke
- With thanks to the SEHSCT community stroke team: Gillian McDonald, Hazel Montgomery, Romaine Orr, Kim Warke, Pamela McNutt, Alison Keys and Pauline Glenfield
- Department of Employment and Learning for the PhD studentship awarded to Suzanne McKenna

# References

- Bandura A (1997) The nature and structure of self-efficacy. In: Bandura A, editor. Self-efficacy: the exercise of Control. W.H Freeman and Company: New York.
- Department of Health (2006) Supporting people with long term conditions to self care: a guide to developing local strategies and good practice. DoH:London.
- Donnellan C, Hevey D, Hickey A, O'Neill D (2006) Defining and quantifying coping strategies after stroke: a review. *J Neurol Neurosurg Psychiatry* 77: 1208-1218.
- Intercollegiate Working Party for Stroke. IWSP (2008) National Clinical Guidelines for Stroke. Royal College of Physicians: London.
- Jones F (2005) Factors which influence the resumption of activity and participation following stroke. PhD thesis, University of Brighton.
- Jones F, Mandy A, Partridge C (2007) Reasons for recovery after stroke: a perspective based on personal experience. *Disability & Rehabilitation*; 30; 7: 507-516.
- Jones, F., Mandy, A., Partridge, C. (2009) Changing self-efficacy in patients following a first time stroke: preliminary study of a novel self-management intervention. *Clinical Rehabilitation* 23: 522-633
- Robinson-Smith G, Pizzi ER (2003) Maximizing stroke recovery using patient self-care self-efficacy. *Rehabilitation Nursing* 28: 48-51.



# **NIMAST Conference 2011**

## **The Stroke Journey**

**21<sup>st</sup> October 2011**

**Lagan Valley Island Centre**