

Supplement 1: Mapping the problem using the TDF and COM-B system (barriers to practice change, relevant TDF domains, components of COM-B system, intervention functions and behaviour change techniques.

1. Physiotherapy: Improve delivery and documentation of a. sitting balance and b. treadmill training to eligible patients				
Step 2: Assessing the problem <i>Which barriers and enablers need to be addressed?</i>	Step 2: Linking to TDF domains <i>Within which theoretical domains do the barriers operate?</i>	Step 2: Mapping the BCW COM-B System to TDF domains <i>Relevant Components of the COM-B</i>	Step 2: Linking Components of the COM-B system to Relevant Intervention Functions <i>Intervention Functions</i>	Step 3: Forming Possible Solutions (Behaviour Change Techniques) <i>Interventions developed to overcome identified barriers and enhance enablers</i>
<p>Barrier: Competing work priorities.</p> <p>Enabler: Equipment required for sitting balance and treadmill training already available and used (e.g. treadmill, harness, table with marked out targets for seated reaching).</p> <p>Enabler: Clinical protocols already in use.</p>	Environmental context and resources	Physical Opportunity	Training	<p>Demonstration, instruction and practice of the behaviour/ intervention</p> <p><i>Phase 1:</i> Training session to review clinical protocols and practice skills required for sitting balance and treadmill training.</p>
<p>Barrier: Lack of triggers and prompts to remind staff to deliver sitting balance and treadmill training.</p>	Memory, attention and decision processes	Psychological Capability	Environmental restructuring	<p>Prompts/Cues</p> <p><i>Phase 1 and 2:</i> Regular caseload review during education sessions to review patient suitability for sitting balance and treadmill training</p> <p><i>Phase 2:</i> Posters created and placed in physiotherapy gym to prompt staff and inform patients about the use of sitting balance and treadmill training.</p>

Enabler: Physiotherapy staff possessed knowledge of evidence and skills in sitting balance and treadmill training.	Knowledge Skills	Psychological Capability	Education and training	Demonstration, instruction and practice of the behaviour/ intervention <i>Phase 1:</i> Training sessions to review clinical protocols and practice skills required for sitting balance and treadmill training
Barrier: Concerns about the physical demands on staff and patients during treadmill training. Barrier: Beliefs that other types of training might produce the same or better outcomes.	Beliefs about capabilities Beliefs about consequences	Reflective motivation Reflective motivation	Persuasion	Use of credible sources. Encouraging staff to focus on past success <i>Phase 1:</i> Discussion in education sessions regarding published evidence for sitting balance and treadmill training and benefits of their use for staff and patients. Focus on patient successes with implementing intervention.
2. Occupational Therapy: Improve screening, assessment and intervention for a. upper limb sensation impairment and b. neglect to eligible patients				
Assessing the problem	Linking to TDF domains	Mapping the BCW COM-B System to TDF domains	Linking Components of the COM-B system to Relevant Intervention Functions	Forming Possible Solutions (Behaviour Change Techniques)
Barrier: Competing work priorities in terms of client intervention.	Environmental context and resources	Physical opportunity	Environmental restructuring and enablement	Adding resources to environment <i>Phase 1 and 2:</i> Development and use of new screening assessment and rehabilitation protocols for sensation and neglect.
Barrier: Lack of available assessment tools for sensation and neglect for use by OT staff.	Environmental context and resources	Physical opportunity	Environmental restructuring and enablement	Adding resources to environment <i>Phase 1:</i> Review of published research on assessment tools available. Nottingham Sensory Assessment (NSA) and Catherine Bergego Scale (CBS) selected, obtained and implemented.

<p>Barrier: Concerns about patient ability to complete sensory assessment</p> <p>Barrier: Difficulty completing sensation neglect assessment and intervention due to competing rehabilitation/goal priorities</p>	<p>Beliefs about capabilities</p> <p>Intentions and Goals</p>	<p>Reflective motivation</p> <p>Reflective motivation</p>	<p>Persuasion</p>	<p>Use of credible sources. Encouraging staff to focus on past success <i>Phase 1 and 2:</i> Discussion in education sessions regarding published evidence for and benefits of sensory assessment for patients and staff. Focus on success with implementation.</p>
<p>Barrier: Lack of knowledge of evidence regarding best practice assessment and intervention for upper limb sensory impairment and neglect</p>	<p>Knowledge</p>	<p>Psychological capability</p>	<p>Education</p>	<p>Providing information about health consequences/outcomes of performing the behaviour <i>Phase 1:</i> Dissemination and review of clinical guidelines and published research re: best practice assessments and interventions for upper limb sensory impairment and neglect including outcomes of interventions.</p>
<p>Barrier: Lack of skills in neglect and sensation assessment and training</p>	<p>Skills</p>	<p>Psychological capability</p>	<p>Training</p>	<p>Demonstration, instruction and practice of the behaviour/ intervention <i>Phase 1:</i> Occupational therapists received training from a known expert in neglect rehabilitation <i>Phase 2:</i> Occupational therapists participated in a training session as well as joint neglect rehabilitation sessions with the stroke unit orthoptist.</p>

3. Improve delivery and documentation of assessment, education and intervention provided to eligible patients with a. communication disorders including aphasia b. swallowing impairments				
<i>Assessing the problem</i>	<i>Linking to TDF domains</i>	<i>Mapping the BCW COM-B System to TDF domains</i>	<i>Linking Components of the COM-B system to Relevant Intervention Functions</i>	<i>Forming Possible Solutions (Behaviour Change Techniques)</i>
<p>Barrier: Lack of standardised aphasia screening tool available for use by speech pathology staff.</p> <p>Enabler: Speech pathology staff demonstrated knowledge of various standardised tools used to screen for aphasia.</p>	<p>Resources</p> <p>Knowledge</p>	<p>Physical opportunity</p> <p>Psychological capability</p>	<p>Environmental restructuring and enablement</p>	<p>Adding resources to environment Phase 1: Review of published research on aphasia screening tools available. Mississippi aphasia screening tool (MAST) selected obtained and implemented</p>
<p>Barrier: Lack of available aphasia friendly educational material for use by speech pathologists to use as part of their education of patients with communication and swallowing impairments.</p>	<p>Resources</p>	<p>Physical opportunity</p>	<p>Environmental restructuring</p>	<p>Adding resources to environment Phase 1 & 2: Development of aphasia friendly educational materials re: communication and swallowing impairments.</p>
<p>Barrier: Attitudes and beliefs about the difficulty in using standardised aphasia screening tools with non-English speaking stroke patients. Many tools/tests were not developed or validated for use with this population.</p> <p>Barrier: Concerns about the consequences of wrongly interpreting results from standardised aphasia assessments, when used with people who are non-English speaking or with visual impairment. Concerns that language/vision problems would alter test scores.</p>	<p>Beliefs about capabilities</p> <p>Beliefs about consequences</p>	<p>Reflective motivation</p> <p>Reflective motivation</p>	<p>Enablement</p>	<p>Adding resources to environment <i>Phase 1:</i> Review of published research on aphasia screening tools available, most appropriate tool selected and purchased for use with people who are non-English speaking or visually impaired.</p>

<p>Barrier: Limited time for intervention, assessment takes priority over intervention.</p>	<p>Resources</p>	<p>Physical opportunity</p>	<p>Environmental restructuring</p>	<p>Restructure the physical/social environment <i>Phase 2:</i> Development and implementation of a swallowing retraining group.</p>
<p>Barrier: Swallowing retraining having a higher priority for intervention than communication.</p>	<p>Resources</p>	<p>Physical opportunity</p>	<p>Environmental restructuring</p>	<p>Adding resources to the environment <i>Phase 1 & 2:</i> Aphasia friendly educational material developed included material on communication techniques to help reinforce skills taught in therapy sessions. <i>Possible options for future consideration:</i> Reintroduction of communication group. Use of technology such as laptops computers or tablets with communication training programs.</p>
<p>Barrier: Lack of systems or prompts to remind staff to document an intervention or re-evaluation.</p>	<p>Memory, attention and decision processes</p>	<p>Psychological capability</p>	<p>Environmental restructuring</p>	<p>Adding resources to the environment <i>Phase 2:</i> Review, updating and implementation of documentation standards for communication and swallowing.</p>

4. Improve delivery of education to eligible patients and family/carers				
Assessing the problem	Linking to TDF domains	Mapping the BCW COM-B System to TDF domains	Linking Components of the COM-B system to Relevant Intervention Functions	Forming Possible Solutions (Behaviour Change Techniques)
Enabler: Nursing staff felt they had a good knowledge of stroke.	Knowledge	Psychological capability		
Barrier: Insufficient skills to teach patients and carers effectively.	Skills	Psychological capability	Training	Demonstration of and instruction about the behaviour/intervention <i>Phase 2:</i> Training in nursing department meeting on the use of education packs.
Barrier: Current recording system does not prompt to remind staff to document patient education when it has been delivered.	Memory, attention and decision processes	Psychological capability	Environment restructuring and enablement	Prompts/cues, Adding resources to environment <i>Phase 1 & 2:</i> Development and implementation of an ink stamp to document education sessions or provision of educational material in the patient's medical record. <i>Phase 2:</i> Discussion in nursing department meetings to prompt use of ink stamp and education packs.
Barrier: Lack of written educational materials to give to patients, including translated materials.	Resources	Physical opportunity	Environmental restructuring	Adding resources to environment <i>Phase 1:</i> Educational (including translated) materials obtained and education packs developed and implemented.

5. Improve delivery and documentation of anxiety and depression screening and advice regarding return to work and driving				
<i>Assessing the problem</i>	<i>Linking to TDF domains</i>	<i>Mapping the BCW COM-B System to TDF domains</i>	<i>Linking Components of the COM-B system to Relevant Intervention Functions</i>	<i>Forming Possible Solutions (Behaviour Change Techniques)</i>
Barrier: Lack of systems or prompts to prompt discussion and documentation about return to work and driving, and diagnosis/ management of anxiety/depression.	Memory, attention and decision processes	Psychological capability	Environment restructuring and enablement	Prompts/cues, Adding resources to environment Phase 1 & 2: Development and implementation of a case conference form in consultation with stroke team. Form used in weekly case conference to prompt discussion/documentation regarding regarding return to work, driving and anxiety/depression.
1. Additional interventions used				
In addition to the above named tailored interventions, audit feedback was provided and guidelines were disseminated to all disciplines.	-	-	-	Feedback on behaviour <i>Audit Feedback</i> All disciplines received and written and verbal feedback after each audit including: audit reports (written), audit presentations (verbal) and verbal feedback in education sessions. Credible sources <i>Guideline dissemination</i> Each discipline was provided with clinical guidelines focusing on the recommendations relevant to them and the nominated areas for improvement.

2. Common enablers				
All disciplines showed a strong desire and motivation to improve/change practice.	Intentions	Reflective motivation	-	-
All disciplines identified with the nominated practice areas as part of their professional role.	Social/professional role and identity	Reflective motivation	-	-
3. Barriers unable to be addressed by the scope of the study				
Fluctuating staff levels (identified by speech pathology and occupational therapy staff).	Resources	Physical opportunity	-	-

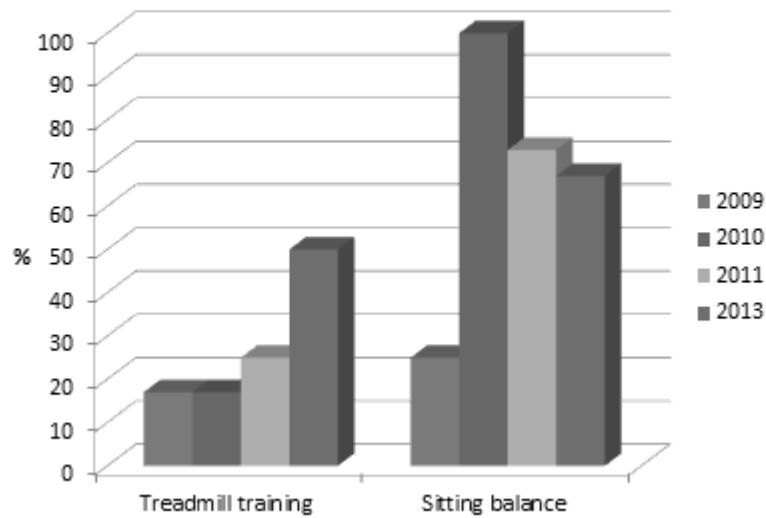
Phase 1 (February-November 2010), Phase 2 (November 2010-May 2011)

Supplement 2: Sample Criteria from Audit Tool

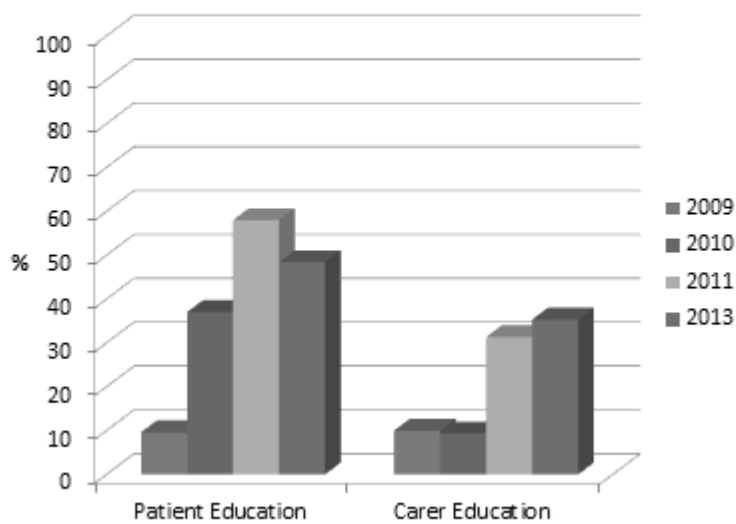
COMMUNICATION	Yes	No	N/A	Comments	Sources of info	Eligibility
Was the patient screened for: (a) Aphasia				Date: Tool:	Check for Mississippi Aphasia Screening Tool in SP progress notes or informal screen.	All stroke patients
UPPER LIMB	Yes	No	N/A	Comments	Sources of info	Eligibility
Was the patient's sensory impairment further assessed using a standardised measure?					Check for OT Nottingham Sensory Ax	Patients screened as having sensory impairment
MOTOR FUNCTION/ CONTROL	Yes	No	N/A	Comments	Sources of info	Eligibility
Was task specific training provided for seated reaching/sitting balance ?					Check PT progress notes PT practice sheets	Patients with a sitting balance difficulty (MAS less than 5 for item 3 [Sitting balance])
DEPRESSION & ANXIETY	Yes	No	N/A	Comments	Sources of info	Eligibility
Was the patient screened for: (a) depression					Check medical, RN notes, Case conference form	All stroke patients
NEGLECT & INATTENTION	Yes	No	N/A	Comments	Sources of info	Eligibility
Was the patient offered &/or provided with intervention to treat neglect of body or space?				Please list the type of treatment offered:	Check OT/Orthoptist progress notes	Patients diagnosed with neglect
EDUCATION	Yes	No	N/A	Comments	Sources of info	Eligibility
Was the patient & carer provided with info covering: • the nature of stroke, risk factors, & signs & symptoms					Check all discipline notes, Check RN progress notes/stamp re: education package, education group attendance	All stroke patients
DRIVING	Yes	No	N/A	Comments	Sources of info	Eligibility
If the patient wishes to drive, were they given information about driving after stroke using the national guidelines?					Check OT progress notes, OT initial ax form, Case conference form, Orthoptist notes, Medical notes	Stroke patients wishing to return to driving

Supplement 3: Excerpt from an audit feedback presentation

Audit Results: Treadmill Training/ Sitting Balance



Audit Results: Education



Supplement 4: Excerpt from an audit feedback report

<p>An Implementation Study to Increase the Uptake of Evidence in Stroke Rehabilitation Bankstown-Lidcombe Hospital Stroke Unit, Sydney, NSW</p> <p>Audit Results- July 2010</p>				
GOOD PRACTICE/ DOCUMENTATION:				
The following areas of practice were consistent with best practice guidelines, or at an acceptable level (i.e. 75% compliance with guideline recommendations or higher):				
<ul style="list-style-type: none"> Provision of task specific practice for patients with lower limb impairments was well documented (73% = 8/11 eligible patients) 				
AREAS FOR IMPROVEMENT IN PRACTICE/DOCUMENTATION:				
The following areas of practice could be improved (i.e. screening/ assessment procedures or interventions were underused or not routinely documented), with compliance rates of 60% or less :				
<ul style="list-style-type: none"> Provision of stroke information and education to patients/carers (0% to 27%, 0/13 to 4/15 eligible patients). 				
9. NEGLECT & INATTENTION				
Compliance with recommendations regarding neglect and inattention				
	Yes		No	
	n	%	n	%
Was the patient <i>screened for neglect/ inattention?</i> (Y/N)	8/15	53%	7/15	47%
Was the <i>neglect/ inattention formally tested?</i> (Y/N) (4 patients not applicable)	0/11	0%	11/11	100%
Was the patient <i>offered intervention to treat neglect of body or space?</i> (Y/N) (7 patients not applicable)	0/8	0%	8/8	100%
Were appropriate strategies used for the management of impaired attention? (Y/N) (9 patients not applicable)	1/6	17%	5/6	83%
Summary:				
<ul style="list-style-type: none"> Best practice guidelines for neglect screening were followed in 53% of cases, although no patients had an in-depth assessment of neglect completed (0%). Evidence-based interventions/ strategies for neglect rehabilitation were rarely provided (0% - body/ space problems; 17% - attentional problems) 				