

Smart Phone Applications

for people with brain injury

The Project

The project *Implementing and evaluating Smart Phone Applications technology across the NSW Brain Injury Rehabilitation Program (BIRP)* aims to:

Provide web-based resources for clinicians

Evaluate the efficacy of Smart Phone Apps for people with brain injury.

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This document:

[B3_During_the_trial_suggested_procedures_for_a_Smartphone_V1_09Aug11.pdf](#)

Is a document which outlines steps to undertake along the management pathway from assessment, plan, instruction, evaluation and follow up. It considers broader concepts such as maintenance and generalisation of skills and emphasises the need for client centered care. Key themes include involving the client's significant others, utilising the Smartphone in a number of environments and engaging errorless learning during the teaching phase. It also directs the clinician to particular documents which can be found on the website which also may be helpful.

It is available from: www.TBIStaffTraining.info

More Project information and further documents:

www.TBIStaffTraining.info

Suggested Procedure for a Smart Phone Trial

- Suitability for a trial of a Smart Phone should include consideration of alternative therapy or compensatory strategies to make accurate clinical comparisons across multiple options. Alternative trials could include an alarm clock, calendar, note taking etc
- The trial of the Smart Phone should include the following stages;
 - o **Assessment:**
 - The client's individual strengths and weaknesses
 - Identification of the client's personal needs and wants including which skills need to be supported such as;
 - Organisational skills (appointments, contacts, to do lists, calculator etc)
 - Physical skills: (monitoring progress made over time, recalling exercises to complete outside of the clinic setting or communicating to health professional details of a workout)
 - Communication skills: (speech to text or text to speech, AAC device, therapy drills etc)
 - Determine;
 - Which environments the Smart Phone could be used in
 - Which communication partners the Smart Phone could be used with and who will require training
 - Which opportunities the Smart Phone could be used to enhance independence (e.g. contacting people when needed, completing tasks at school/work independently after a reminder)
 - A family/friend that would be available to provide support to the Client's ongoing use of the device.
 - Their current level of independence across activities of daily living
 - The motivation of the client and their ability to explore additional functions. Seek agreement for their use of the Smart Phone as a therapy/compensatory device as well as a phone/entertainment device.
 - The client's physical ability to use a smart phone unit
 - o **Plan**
 - Select the Smart Phone handset type and applications which meet the needs identified during the assessment process using the 'which smart phone is right for you?' and 'application spreadsheet for clinicians' pages.
 - Plan where and with whom the trials will be carried out with.
 - Consideration of any modifications or assistive technology that may be required to allow the client to access to the device using the accessibility flowchart. Examples include;
 - Non-English speaking background: selection of client's language (covers both text and voice)
 - Vision Impairments:

- Voice over: allows the client to touch the screen to hear a description of the item under your finger, then gesture with a double-tap, drag, or flick to control the phone. The speech rate can be altered and can be used in 21 different languages.
- Wireless Braille Display: used with voice over to control the phone
- Zoom: enlarges elements of items on the screen
- White on Black: contrast between the background and text able to be heightened
- Fonts: available in medium, large, extra large and giant.
- Alerts: able to change between vibrating, audible or visual alerts
- Hearing:
 - Closed captioning (i.e. subtitles) and SMS
 - Visual Voicemail: allows replay of audio segments, voicemail messages able to be reviewed visually,
 - TTY mode with iPhone TTY Adapter
 - hearing aid-compatible induction ear loop
 - wireless remote headset
- Physical/motor:
 - Voice dialling
 - Corrective/predictive text
 - Hands-free speaker phone
- **Instruction**
 - Model then practice the use of each application on ward using errorless learning principles
 - Model then practice the use of each application in functional environments e.g. using, for example, the task example template to guide your therapy.
 - Involvement of family members and key communication partners
 - Engage teaching techniques specific to their learning style (e.g. picture, written or auditory prompts, simplified instructions etc)
 - Client and family given opportunity to ask questions and resolve any issues which may have occurred. The 'Frequently asked questions' document may address these concerns and suggestions. If your question is not listed please contact the project manager for further trouble shooting.
- **Evaluate weekly**
 - Objective and subjective data about use/suitability of applications across a range of purposes (i.e. useful: calendar, entertainment: games, features: font size). This should be done with qualitative and quantitative measurement tools which reflect both goal attainment for the client and their family as well as quality of life and satisfaction with the device as part of the rehabilitation program.
 - Modifications made or alternatives suggested based on performance

- **Follow up**
 - Handover as usual to discharge facility or community clinicians with training in smart phone use as required.
 - Phone calls or home visiting to the client and caregivers in the community
 - Evaluation of the device 2-3 months post implementation regarding effectiveness and client satisfaction. As a major benefit of the device is to allow for a compensatory tool to evolve as the client's needs and preferences change, a evaluation schedule should be established to review whether the device is fulfilling the client's needs over time with re-assessment and changes made as indicated.