TOOL KIT FOR PROVIDING HOME BASED TELE-REHABILITATION SERVICES USING AN iPad
TOOL KIT FOR PROVIDING HOME BASED TELE-REHABILITATION SERVICES USING AN iPAD

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This resource was developed as part of the Telehealth in the Home project.
Telehealth in the Home is led by Flinders University, in partnership with SA Health and includes the SA Rehabilitation Statewide Clinical Network, the SA Older People Clinical Network and the SA Palliative Care Clinical Network.
An initiative of the Australian Government.
Adelaide, South Australia, 2014.

The steering committee of the Telehealth in the Home project;
Michael Kidd, Tom Symonds, Colin Carati, David Currow, Maria Crotty, Craig Whitehead, Jennifer Tieman, Kate Swetenham, Peter Chapman, Sarah Mahoney, Alan Taylor.
Oh, I was a bit nervous the first week because it was something new. “Will I do it right? Have I remembered what to do?” That sort of thing… It was easy to pick up

Tele-Rehabilitation

Patient
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Thinking about doing Tele-Rehabilitation?
Overview of Tele-Rehabilitation Publications

A review of the literature over the last 10 years reveals mounting evidence in the field of tele-rehabilitation regarding effectiveness and efficacy (Kairy et al 2009). Baron et al (2005) reported that ‘tele-rehabilitation overcomes issues relating to access to services such as distance and immobility, as well as assisting in caseload prioritisation, allowing for intensive treatment regimes, reduced length of stay in hospital, longer term rehabilitation management, and meeting the increased demand of speech services’. Onor et al (2008) compared the effectiveness of telecare in three elderly populations and found that it could provide health services in rural areas, enlarge the rehabilitation opportunities by using computer aided systems, improve the quality of life and reduce medical costs.

Sanford et al (2004) and Bendixen et al (2007) used tele-video to accurately identify home modifications needs, Schein et al (2008) demonstrated positive outcomes associated with tele-consultation between a remote seating specialist and a local therapist for evaluating wheelchair prescriptions and the American Speech-Language-Hearing Association endorsed tele-rehabilitation as an appropriate and suitable service delivery model for speech pathologists provided that the services are of the same quality as those delivered face to face.

Finkelstein et al (2006) found that tele-rehabilitation has the capability to improve quality of life and reduce medical costs by increasing number of patients seen whilst in 2008, Delilfraine et al stated that tele-rehabilitation was an ‘Effective clinical intervention in many settings with different patient groups’.

More recently, a review of the evidence by Ward and Burns (2014) supported the use of tele-rehabilitation in dysphagia management and Ng et al (2013) investigated tele-rehabilitation as a way to address executive dysfunction after traumatic brain injury, finding it could deliver cognitive re-orientation and promote community integration.

Rogante et al (2010) report in their review of the literature that there is a ‘Lack of comprehensive studies’ providing evidence to integrate tele-rehabilitation technologies into clinical practice. More evidence is needed to investigate how tele-rehabilitation can be provided within the context of an ageing population, shrinking health dollar and increasing access to high end technology including wearable technologies, virtual reality platforms, mobile devices, avatars and commercially available apps. There has been recent growth in the number of tele-rehabilitation services available to clients due to advances in technology and more attention is being paid to accessible and familiar technologies. Lim et al (2012) and Gatsou et al (2013) explored the use of tablets with older people and concluded that ease of use is extremely important and Alvseike et al (2012) reported that perception of use were often based on a misunderstanding of the requirements for technical competence.

Liu et al (2014) found that rehabilitation professionals who are faced with using new technologies are less concerned about effort and social pressures than they are about what the technologies can do for them or their clients. Rehabilitation professionals’ acceptance and adoption of technologies rely on conditions that facilitate their use. These conditions include scheduling, support and a conductive environment.
List of Tele-Rehabilitation Publications


52. Sim, S., Barr, C. J., & George, S. (2014). Comparison of equipment prescriptions in the toilet/bathroom by occupational therapists using home visits and digital photos, for patients in rehabilitation. *Australian occupational therapy journal*.


International Tele-Rehabilitation Research Units

Summary of research units from http://www.habiliseurope.eu/?q=node/529

A number of important Tele-rehabilitation Research Units are described below;

**AETMIS**
AETMIS (the Québec government agency responsible for health services and technology assessment, www.aetmis.gouv.qc.ca)
The Agency proposes some guidelines and technical standards and recommends that the Quebec Ministere de la Sante et des Services sociaux adopt them in cooperation with the authorities concerned.

**ATA Tele-rehabilitation SIG**
ATA Tele-rehabilitation SIG (American Telemedicine Association; Tele-rehabilitation Special Interest Group, media.americantelemed.org/ICOT/sigtelerehab.htm)
The Tele-rehabilitation SIG mission is to enhance access to rehabilitation services and support independent living through the use of telehealth technologies. Basically the group: i) develops innovative systems "tools" to be used for tele-rehabilitation; ii) collects data of evidence-based outcomes of tele-rehabilitation clinical applications; iii) acts as a resource for reimbursement issues.

**Scottish Centre for Telehealth**
Scottish Centre for Telehealth. (http://www.sct.scot.nhs.uk/)
The Centre committed a Tele-rehabilitation Scoping Study whose main starting points were:

1) Rehabilitation services which may use tele-rehabilitation should include:
   - Direct intervention with the client (assessment, treatment, monitoring and education)
   - Care coordination
   - Caregiver education
   - Consultation with specialist clinicians.

2) While tele-rehabilitation is an emerging field in healthcare, research from around the world is building an evidence-base for this model of service delivery.

3) It is essential to review areas of rehabilitation need, especially in countries with dispersed population like Scotland.

**Tele-rehabilitation Research Unit - The University of Queensland**
(http://www.uq.edu.au/telerehabilitation)
“The overall objective of the Tele-rehabilitation Research Unit is to develop, validate and implement tele-rehabilitation applications to improve access to allied health services for persons with communication disorders, physical disability and/or hearing impairments both within the home, and in rural and remote environments.”
Things you need to know about doing Tele-Rehabilitation
Health policy refers to decisions, plans, and actions that are undertaken to achieve specific health care goals within a society. An explicit health policy can achieve several things: it defines a vision for the future which in turn helps to establish targets and points of reference for the short and medium term. It outlines priorities and the expected roles of different groups; and it builds consensus and informs people.

World Health Organization. Health Policy.

http://www.who.int/topics/health_policy/en/
Tele-Rehabilitation – Policies and Guidelines

When looking at developing and delivering tele-rehabilitation services, it is useful to understand both the broad context of tele-rehabilitation as it is practiced in other countries and cultures and the specific policies and guidelines that pertain to how tele-rehabilitation is delivered.

In the Australian context, one of the standards that health services delivery is influenced by the National Safety and Quality Health Service Standards. The Standards have been designed for use by all health services and “are integral to the accreditation process as they determine how and against what an organisation’s performance will be assessed.” Australian Commission on Safety and Quality in Health Care (ACSQHC) (September 2011), National Safety and Quality Health Service Standards, ACSQHC, Sydney.

All health organisations have documentation which supports the way clinicians practice, non-clinicians perform their tasks and patients and carers are supported to engage with health services.

For health service employees policies, procedures and work instructions are ubiquitous. Policies have wide application and describe standards that all users should normally follow. Clinicians have access to guidelines to help support effective clinical practice. Guidelines are sets of best practices that are supported by evidence or consensus. Clinicians attempt to follow guidelines, though the strength of the evidence supporting the guideline varies and country and cultural considerations may affect contextual relevance. Guideline recommendations would ideally translate into operational documents such as policies, procedures and work instructions.

Listed below are links to relevant policies and guidelines that pertain to tele-rehabilitation service development and delivery. They provide a context for practice and can assist to inform local policy and processes.

**Australia**

Policy Paper: Implementing e-health across allied health to maximise Outcomes  
AHPA March 2013  

Telehealth and Allied Health position paper  
Services for Australian Rural and remote Allied Health, July 2012  

Video Conferencing Technology Policy Directive  
July 2013, Dept of Health, Govt of South Australia  
Guidelines for Sub Acute Services Offering Digital Telehealth Network Consultations
July 2013, Dept of Health, Govt of South Australia

SA Digital Telehealth Network- Best Practice Guidelines for Remote Clinical Sessions
Dept of Health, Govt of South Australia

APA Background paper Telerehabilitation 2012

APA Position Paper Telerehabilitation and Physiotherapy 2012

International

EVIDENCE ON THE EFFECTIVENESS OF TELEREHABILITATION APPLICATIONS
Institute of health economics, Alberta Canada 2010

A Blueprint for Telerehabilitation Guidelines
American Telemedicine Association Oct 2010

American Telemedicine Association Standards and Guidelines
www.americantelemed.org/i4a/pages/index.cfm?pageid=3311

American Telemedicine Association: Telemental health practice guidelines

AOTA Tele-rehabilitation Position Paper 2005

APTA Telehealth – Definitions and Guidelines
http://www.apta.org/Telehealth/
American Physical Therapy Association: Definitions
www.apta.org/AM/Template.cfm?Section=Policies_and_Bylaws1&CONTENTID=67459&TEMPLATE=/CM/ContentDisplay.cfm

American Speech-Language-Hearing Association: Professional issues in Telepractice
www.asha.org/docs/html/PI2010-00315.html

Expert Consensus Recommendations for Videoconferencing-Based Telepresenting November 2011
American Telemedicine Association

Home Telehealth Clinical Guidelines 2003
American Telemedicine Association

Accreditation Canada, Telehealth Services Standard
http://www.accreditation.ca/telehealth-services

Taking Action Towards Optimal Stroke Care – a resource to support implementation of the Canadian Best Practices Recommendations for Stroke Care
Canadian Telestroke Action Collaborative, Telestroke Implementation Toolkit Oct 2013

Canadian Association of Speech-Language Pathologists and Audiologists: Position Paper
www.caslpa.ca/PDF/position%20papers/telepractice.pdf

Canadian Association of Occupational Therapists: Position Statement

Telehealthcare and evaluation toolkit, NHS Midlands and East, 2010

Ready, Steady, Go: A telehealth implementation toolkit. NHS National Institute for Health Research
http://clahr-c-sy.nihr.ac.uk/resources-project-reports.html

Clinical Leading Environment for the Assessment of Rehabilitation protocols in home care (CLEAR)
http://www.habiliseurope.eu/?q=node/5

International Standards Organisation
Things you need to consider before starting Tele-Rehabilitation
“The primary aims of the (Australian) National Safety Quality and Health Service Standards are to protect the public from harm and to improve the quality of health service provision. They provide a quality assurance mechanism that tests whether relevant systems are in place to ensure minimum standards of safety and quality are met, and a quality improvement mechanism that allows health services to realise aspirational or developmental goals.”

Australian Commission on Safety and Quality in Health Care (ACSQHC) (September 2011), National Safety and Quality Health Service Standards, ACSQHC, Sydney.
Safety - How Did We Assess The Risks?

Risk Readiness for Tele-Rehabilitation Services

In 2012, the National Health Service (NHS) (United Kingdom) developed a risk appetite matrix (see Appendix 5) which was used to assess the risk appetite of the NHS for a local program of telehealth. It was developed for use at a senior governance and management level to assess organisational readiness.

During this project, we have modified the document (see below) for use at operational level, to assess the readiness of staff and patients to participate in delivering and receiving telehealth services utilising data from staff focus groups.

Analysis suggests that the areas of greatest concern, with the lowest risk tolerance, were in the areas of Compliance/Regulatory requirement (expressed mostly as duty of care and risk management) and Innovation/Quality/Outcomes. This suggests that staff are most concerned with the impact that telehealth services have on patient care, both as it is perceived by the patient/recipient and the regulatory authorities. Financial concerns (expressed mostly as efficiency and budget concerns) were present but uncommon. The financial concerns mentioned were mainly around the perceived use of budget constraints as a strategy to introduce health services of a lower standard. There were a few references to the cost savings that telehealth could offer to health services.

Surprisingly, concerns about the impact of telehealth on reputation at both a professional and organisation level were rare.

Summary of risk appetite elements

Summary of risk appetite levels

Blue: focus group 1; red: focus group 2; green: combined
A = Financial/VFM, B = Compliance/regulatory, C = Innovation/quality/outcomes, D = Reputation
This tool has helped us to identify the areas of risk perceived by staff and the readiness of the staff in the organisation to engage in the introduction and use of telehealth services. This information may assist managers and clinical leaders to plan to introduce telehealth services. Specifically, it could help to manage clinical change processes by targeting education and training around the areas of perceived risk and low risk appetite. It may also assist managers to target activity around strategies that lead to risk mitigation, thereby improving the acceptability of the change.

### Identifying Risks in Clinical Processes

#### Mapping processes

“A map of a patient journey is a visual representation - a picture or model - of the relevant procedures and administrative processes. The map shows how things are and what happens, rather

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**RISK APPETITE MATRIX (NHS)- Adapted for individual responses from focus groups**

<table>
<thead>
<tr>
<th>Risk level</th>
<th>0 Avoid</th>
<th>1 Minimal</th>
<th>2 Cautious</th>
<th>3 Open</th>
<th>4 Seek</th>
<th>5 Mature</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Key Elements</strong></td>
<td>Avoidance of risk and uncertainty is a Key Objective</td>
<td>Preference for ultra-safe delivery options that have a low degree of inherent risk and may only have limited reward potential</td>
<td>Preference for safe delivery options that have a low degree of inherent risk and may only have limited reward potential</td>
<td>Willing to consider all potential delivery options and choose while also providing an acceptable level of rewards and VFM (value for money)</td>
<td>Eager to be innovative and to choose options offering potentially higher business rewards (despite greater inherent risk)</td>
<td>Confident in setting high levels of risk appetite because controls, forward scanning and responsiveness systems are robust</td>
</tr>
<tr>
<td><strong>Compliance/Regulatory</strong></td>
<td>Play safe - avoid anything which could challenge regulatory compliance.</td>
<td>Acknowledgement that similar situations elsewhere have not breached regulatory compliance.</td>
<td>Limited tolerance for sticking our neck out. Reasonably sure we would meet regulatory compliance.</td>
<td>Regulatory compliance is challenged and problematic. Gain will outweigh the adverse consequences.</td>
<td>Significant challenge to regulatory compliance and consequences significant. An win would be a great coup.</td>
<td>Consistently pushing back on regulatory burden. Front foot approach informs better regulation.</td>
</tr>
<tr>
<td><strong>Reputation</strong></td>
<td>No tolerance for decisions that could lead to scrutiny of, or indeed attention to, the profession/organisation. External interest in the organisation/profession viewed with concern.</td>
<td>Tolerance for risk taking limited to where there is no chance of any significant repercussion for the profession/organisation. Senior management distance themselves from chance exposure.</td>
<td>Tolerance for risk taking limited to events where little chance of any significant repercussion for profession/organisation in case of additional scrutiny/interest. Mitigate any undue interest in profession/organisation.</td>
<td>Appetite to take decisions with potential to expose the profession/organisation to additional scrutiny/interest. Prospective management of organisation’s/ profession’s reputation.</td>
<td>Willingness to take decisions that are likely to bring scrutiny of the profession/organisation but potential benefits outweigh risks. New ideas seen as potentially enhancing reputation of organisation/profession</td>
<td>Track record and investment in communications has built confidence by public, press and politicians that organisation will take the difficult decisions for the right reasons with benefits outweighing the risks.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>APPETITE</th>
<th>NONE</th>
<th>LOW</th>
<th>MODERATE</th>
<th>HIGH</th>
<th>SIGNIFICANT</th>
</tr>
</thead>
</table>

1 For operational staff this was expressed as efficiency and budget considerations
2 For operational staff this was expressed as duty of care and risk management considerations
than what should happen. This helps anyone involved see other people's views and roles. It can also help you to diagnose problems and identify areas for improvement.”

http://www.institute.nhs.uk/quality_and_service_improvement_tools/quality_and_service_improvement_tools/process_mapping_-_an_overview.html#sthash.7DJodGCa.dpuf

The techniques used in mapping processes have their origins, for the most part, in manufacturing industries. How to apply these approaches to improve health services is evolving rapidly and the NHS Institute for Innovation and Improvement makes information about mapping and tools to support it available on their website (see above link). Mapping is now used in many health agencies as tools to support clinical safety and quality.

We used mapping for two purposes. The first was to capture the decision making process that occurred when streaming patients into tele-rehabilitation, which will be discussed here (see remote delivery tele-rehab model decision tree). The second was to track changes in process relating to the introduction of the new tele-rehabilitation services and to actively manage those changes in work practice. This will be discussed more in the Quality section.

We were able to identify that there were key decision points in this process of admitting patients to the tele-rehabilitation service. Furthermore, we were able to determine that the decisions were more numerous and broad ranging when patients were having a service delivered in full remote model (no in-person visits).

Having mapped the basic processes in the more demanding remote delivery service, we then refined them in order to improve both consistency and rigour in our decision making.

The key decision points that were identified and the tools we used to further support them, are listed below;

Clinical decision points (orange rectangles)
1. Patient’s belief in their ability to manage (measured using Generalised Self Efficacy Scale). Using this scale, scores between 28 and 40 represent a moderate to high perception of self-efficacy and patients with these scores should be considered for remote tele-rehabilitation services
2. Patient’s ability to learn and behave in safe, adaptive ways (cognitive function using MMSE and frontal behavioural characteristics (disinhibition, poor impulse control, poor judgement, poor insight)
3. Carer’s level of stress (Modified Carer Strain Index)

Technical decision points (green rectangles)
1. There is only one technical decision point which occurs after the clinical considerations have been undertaken. This relates to internet connection, signal strength and support with technology.
Assessing Risk in the Clinical Environment

All health services have in place existing risk management processes. The process for attributing a level of risk to a situation or action is undertaken using a risk matrix. The SA Health risk matrix used for patient and related incidents or near misses is attached below.

During the telehealth project it has become apparent that current training packages to use this tool do not include telehealth modes of service delivery. Scenarios of typical risks, to both staff and patients, encountered when delivering clinical services using telehealth, would assist telehealth novices to both assess and manage risks using this type of risk assessment tool.

Assessing Risk

In line with SA health policies at an operational level, pre home visit safety assessments are typically used to assess risk to staff in undertaking the visit to the patient’s home. An example of that assessment used by Rehabilitation in the Home (RITHOM) therapists at RGH is below. The assessment assesses risks relating to:

1. Location including access, accommodation, visibility from street; front door access, external lighting, steps, portable ramp needed.
2. Client including cultural and language requirements, behavioural issues, violence, alcohol or substance abuse, smoking, presence of weapons, physical mobility, falls, infection control issues, and any special equipment required.
3. Medical status including, diet or fluids, medication, oxygen, diabetes etc.
Tele-rehabilitation, if used unwisely, can increase risks for the patient and their family by leaving them unsupported by physical presence and monitoring. In our trial, the standard risk assessment was expanded to incorporate risk factors more pertinent to tele delivered services.

<table>
<thead>
<tr>
<th>Pre-Offsite Visit Risk Assessment Checklist</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Client Name:</strong> ................................</td>
</tr>
<tr>
<td><strong>Address:</strong> ..................................................</td>
</tr>
<tr>
<td>........................................................................</td>
</tr>
<tr>
<td><strong>Person completing checklist:</strong> ......................</td>
</tr>
<tr>
<td><strong>Department:</strong> ..................................................</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>LOCATION</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Easy access available? (Accommodation type; key; house visible from street; front door access; external lighting; steps; portable ramp required)</td>
</tr>
<tr>
<td>Map – special directions</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>PERSON’S PRESENT</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Who is likely to be present during the visit? Partner</td>
</tr>
<tr>
<td>Other ……………………………………………………………………………</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>CLIENT DETAILS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Has client/carers consented to the visit? No</td>
</tr>
<tr>
<td>Does client have any cultural requirements? eg. ATSIC, non-English speaking, interpreter required? Specify: No</td>
</tr>
<tr>
<td>Any behavioural issues – Client / Carer / others? e.g. history of aggression / violence or alcohol / substance abuse? No</td>
</tr>
<tr>
<td>Is the client/carer a smoker? No</td>
</tr>
<tr>
<td>Any other known hazards? e.g. weapons No</td>
</tr>
<tr>
<td>Physical mobility &amp; any manual handling issues? e.g. falls; needing assist, Access Cab; transfer/mobility status? No</td>
</tr>
<tr>
<td>Any infection control issues? e.g. MRSA, VRE? No</td>
</tr>
<tr>
<td>Any equipment required? e.g. shower chair, TSR, W/C, urinal bottle, portable ramp etc. No</td>
</tr>
<tr>
<td>Does the client have any pets? If ‘yes’, will they be securely locked away? No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>MEDICAL STATUS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Modified diet or fluids No</td>
</tr>
<tr>
<td>Any concern regarding medical condition? (need for O₂, medication – diabetic) No</td>
</tr>
<tr>
<td>Clearly indicated NFR status in medical file? No</td>
</tr>
</tbody>
</table>

**SUMMARY:** (use back page if required)

| Signature: .................................. | Date: ............................... |
| Signed by Senior Therapist (if required): |

---
A new risk assessment for home based tele-rehabilitation referrals was developed based on clinical practice and failed tele-rehabilitation during the trial (see below).

### Risk Assessment for Home Based Tele-Rehabilitation Referrals

**PLEASE CONSIDER THE FOLLOWING WHEN REFERRING TO TELE-REHABILITATION**

**Red Flag = critical issue; discuss referral with Tele-Rehabilitation Manager**

<table>
<thead>
<tr>
<th>ACCOMMODATION</th>
<th>Tele-Rehab ONLY service</th>
</tr>
</thead>
<tbody>
<tr>
<td>The patient is able to travel to their accommodation</td>
<td>Y</td>
</tr>
<tr>
<td>The patient is able get in and out of accommodation without difficulty</td>
<td></td>
</tr>
<tr>
<td>(steps/stairs/pathways/gardens/easy opening doors/key available)</td>
<td></td>
</tr>
<tr>
<td>Electricity is connected to the accommodation</td>
<td>NO</td>
</tr>
<tr>
<td>Key areas of the home are accessible</td>
<td></td>
</tr>
<tr>
<td>(toilet/kitchen/bathroom/bedroom)</td>
<td></td>
</tr>
<tr>
<td>Bed/chair/toilet are suitable for transfer</td>
<td></td>
</tr>
<tr>
<td>The inside of the home is suitable for therapy</td>
<td></td>
</tr>
<tr>
<td>(place for iPad/uncluttered walking space/table and chair suitable for transfers)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PERSON/S PRESENT IN ACCOMMODATION</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>There is someone else living in the home</td>
<td></td>
</tr>
<tr>
<td>The patient is on good terms with the person/s who share the accommodation</td>
<td></td>
</tr>
<tr>
<td>The person/s living with the patient have agreed to the patient’s return home</td>
<td></td>
</tr>
<tr>
<td>The person/s living with the patient are able/ prepared to assist the patient with tele-rehab?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CLIENT DETAILS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The patient has cultural requirements including non-English speaking; Aboriginal Family; African Cultural</td>
<td></td>
</tr>
<tr>
<td>The patient demonstrates risky behaviours eg (disinhibition, poor insight, poor judgment, poor impulse control)</td>
<td>YES</td>
</tr>
<tr>
<td>The patient has significant cognitive impairment (MMSE &lt;21)</td>
<td>YES</td>
</tr>
<tr>
<td>There is a recent history of domestic violence</td>
<td></td>
</tr>
<tr>
<td>There is a recent history of alcohol or substance abuse</td>
<td></td>
</tr>
<tr>
<td>The patient currently has suicidal ideation</td>
<td>YES</td>
</tr>
<tr>
<td>There are significant infection control issues (eg shingles, VRE, MRSA, ESBOl)</td>
<td></td>
</tr>
<tr>
<td>The patient has pets which might represent a hazard</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TECHNOLOGY</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile coverage is available in the patient’s accommodation</td>
<td>NO</td>
</tr>
<tr>
<td>A current active landline or mobile phone number has been confirmed</td>
<td>NO</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SUMMARY</th>
<th></th>
</tr>
</thead>
</table>
In summary, this document recommends that tele-rehabilitation referrals be reviewed by the service manager (or equivalent) if the following “red flagged” conditions exist:

1. Electricity is not connected to the accommodation
2. Mobile coverage is not available in the patient’s accommodation
3. A current active landline or mobile phone number has not been confirmed
4. The patient demonstrates risky behaviours e.g. disinhibition, poor insight, poor judgement, poor impulse control
5. The patient has a significant cognitive impairment (Mini Mental State Examination <21)
6. The patient currently has suicidal ideation.

“Red flags” do not, singly or collectively, immediately disqualify patients from tele-rehabilitation as actions may be taken to modify the risk sufficient to permit the service to go ahead. This risk mitigation process and negotiation would need to be carried out by a senior clinician with service level responsibilities.

Managing Risk in Tele-Rehabilitation

Managing Risk
Having identified risks relating to home delivered service, processes are enacted to minimise or eliminate these risks. These processes routinely involve the prescription of equipment or small aids to daily living to assist the patient to safely perform daily tasks at home and the selection and measuring for modifications to the home to manage environment risk factors (e.g., grab rails in bathroom) or improve home utility (e.g., ramps at access points).

This current telehealth project has demonstrated that when the patient or family member has been able to safely walk through and around the home holding the iPad, the home safety assessment can be successfully undertaken using iPad video conferencing.

There is evidence from previous research (Sim 2014) that equipment prescription can be safely undertaken using digital photos. It was our experience during the trial that the live video conference offered the same opportunity for prescription of simple equipment. Evidence for the prescription of home modifications using remote viewing technology is yet to be published. Although it might well be possible for simple modifications like installation of single grab rails or a threshold ramp to be undertaken remotely, clinical concerns remain about the prescription of complex modifications (bathroom makeovers, ramps on sloping sites etc) using this technology until more research has been undertaken.

One of the advantages when providing services remotely is that health professional staff no longer attends the patient’s home, so this staff risk assessment process is redundant in the telehealth context. This delivery mode eliminates risk of injury to the staff through exposure to the patient’s home and family environments, driving related hazards and manages any infection control matters that may otherwise arise.
Managing Change

Change can be potentially disruptive and destabilising and represents a risk factor to the implementation of new tele-rehabilitation services. There is increasing evidence of change fatigue within health services. The introduction of tele-rehabilitation to the current Rehabilitation in the Home has been an incremental process. During the initial phases, one clinician took the lead and began to gradually change her practice from purely face-to-face therapy sessions to videoconferencing supplemented by electronic tools and apps. As she became more confident and developed new skills, she was then able to apply that knowledge to identifying other tele-rehabilitation approaches that could be used instead of, or as an adjunct to, traditional practice. Smaller groups within the team were then identified and given basic training to begin changing their practice with support from ‘champions’. Policies and procedures for patient admission to, and journey through, the service were changed to support the transition and staff were provided with checklists to assist.

Education process run in parallel to change process
Outline of education provided in trial
- Presentations to health staff have focused on change management to encourage uptake from staff. Information presentations have been made both intra and extra-organisation about the project and telehealth services.
- Specifically, these presentations have described:
  - telehealth to the home;
  - telehealth equipment and applications;
  - telehealth services implications for the service provider; and
  - telehealth patient perspectives.

Stakeholder Engagement Process

Stakeholders need to be identified and engaged in any change process. Clinicians working within hospital and community based teams, those within the local health network, clinicians working in state and country rehabilitation were all engaged at various levels to begin the implementation of tele-rehabilitation. Those clinicians who saw the greatest benefits to their patients especially from an access and reduction of travel point of view were eager to be involved. Engagement from General Practitioners, as members of the patient’s health care team, was considered to be important and local non-for-profit organisations, universities and community organisations have all been contacted and informed of the current telehealth trial. There needs to be an established relationship with SA Health eHealth Systems in order to ensure future support of IT infrastructure and local IT technical support with a plan to engage policy makers at the highest level to assist in the integration of tele-health into usual practice.
Communication Strategy

A broad communication strategy is required to engage with the identified stakeholders. General Practitioners, local and country health services, in particular, allied health, and members of the community were all provided with a range of material in different forms. A number of community meetings and information sessions were conducted. Brochures, flyers and news articles were arranged in both SA health publications and in the local press and a television news article was organised. A website has been established to provide both background information and training material including general and technical videos and the findings from the Telehealth in the Home project have been presented at various national conferences with the intention of inclusion in a range of journal publications.

Dissemination of telehealth project reports and materials, training and information sessions are planned for the following year. Local hospital based forums including grand rounds and individual discipline department meetings have been organised. Presentation and posters at local, national and international conferences and publications are planned.

Existing professional, clinical and discipline links within SA Health will be leveraged to introduce and progress use of telehealth services locally and within Country Health and existing reporting mechanisms to record usage, occasions of service and related data will be employed. Further liaison is being arranged with the manager of Casemix/ABF to investigate adequate collection and reporting of activity data to ensure appropriate funding for telehealth interventions.
Quality in Tele-Rehabilitation

Standards and Accreditation in Australia

The National Safety and Quality Health Service Standards are the tools used to assess Australian health services for quality and safety. With the introduction of telehealth services during this project, a search has been made for relevant safety and quality standards that relate to this mode of delivery. Two documents that look specifically at quality and safety in telehealth were found. They are:

- The “Proposed framework for telehealth evaluation in Australia” published in “A Unified Approach for the Evaluation of Telehealth Implementations in Australia” (Dattakumar 2013)
- Draft ISO/PDTS 13131Health informatics — Telehealth services — Quality planning guidelines (awaiting publication 2014)

A comparison of these two telehealth specific quality and safety standards was made with the National Safety and Quality Health Service Standards. A detailed analysis has been undertaken (see below). The key finding from this analysis is that matters central to delivering quality and safety in telehealth, such as facilities management, technology management and information management, are not captured with the same specificity and detail in the National Safety and Quality Health Service Standards. Transitioning from standard delivery health services to telehealth services is likely to require a shift in the way that health services conceive of and manage safety and quality.

Comparison of Australian Safety and Quality Standards that relate to Telehealth

<table>
<thead>
<tr>
<th>National Safety and Quality Health Service Standards</th>
<th>Draft ISO/PDTS 13131 Health informatics — Telehealth services — Quality planning guidelines</th>
<th>ATHAC Telehealth Standards Framework</th>
<th>Proposed framework for telehealth evaluation in Australia</th>
</tr>
</thead>
</table>
| Standard 1 Governance for Safety and Quality in Health Service Organisations | Standard 5 Quality and risk management
Standard 6 Quality management of telehealth services
Standard 7 Financial management
Standard 8 Service planning
Standard 9 Workforce Planning
Standard 10 Healthcare planning
Standard 11 Responsibilities
Standard 14 Information management | 1.1 In forming the patient about Telehealth
1.2 Seeking patient consent
1.3 Selecting appropriate patients for telehealth
1.4 Using telehealth in delivering care
1.5 Skills of practitioners
1.6 Evaluating the use of telehealth
3.1 Management of physical environment
3.3 Management of the logistical environment | Patient Control
Changes in individual’s productivity
Changes in access to required healthcare service
Mortality rate
Clinical indicators |
| Standard 2 Partnering with Consumers | | | |
| Standard 3 Preventing and Controlling Healthcare Associated Infections | Standard 11 Responsibilities | | |
| Standard 4 Medication Safety | Standard 11 Responsibilities | | |
| Standard 5 Patient Identification and Procedure Matching | Standard 9 Workforce planning
Standard 11 | | |

The table above compares the National Safety and Quality Health Service Standards with the Draft ISO/PDTS 13131 document and the ATHAC Telehealth Standards Framework. It highlights key areas that are not covered in the National Standards but are important in telehealth, such as the management of physical and logistical environments.

The proposed framework for telehealth evaluation in Australia also includes patient control indicators that are not covered in the National Standards, such as changes in productivity, leave for health reasons, and access to healthcare services.

In conclusion, transitioning to telehealth services requires a shift in the way that health services conceive of and manage safety and quality. The National Safety and Quality Health Service Standards need to be updated to include these new aspects of telehealth delivery.
## Guidelines for Tele-Rehabilitation

“Evidence-based clinical practice guidelines translate findings from health research into recommendations for clinical practice” (NHMRC 1999) and, when implemented, can improve health outcomes (Menendez 2005, Du Pen SL 1999). No evidence based guidelines currently exist for delivering rehabilitation or geriatric services using telehealth. Frequently, telehealth has been seen as a different way of delivering “normal” clinical services via video conferencing (i.e. the same tasks delivered in a different way). If using this frame of reference, no new guidelines would apply to telehealth services. However we have found during this project, in the case of tele-rehabilitation, that telehealth/e-health technology also offers different ways for clinicians to practice. This includes providing services via video conferencing, using electronic tools like web based and iPad based applications, using remote monitoring tools like our falls diary and activity monitoring tools like Fitbit™. It also represents a shift in clinical culture (roles, responsibilities and power) and the systems that support service delivery.

Although this project is not able to produce evidence based guidelines, we have been able to develop processes for delivering tele-rehabilitation services. This includes decision trees for streaming patients into telehealth, process maps for delivering tele-rehabilitation, procedures/work instructions for delivering tele-exercise based therapy, tele-physiotherapy and tele-speech therapy, instruction manuals for using the iPad for video conferencing and tele-therapy for patients, health professionals and ICT professionals, and troubleshooting documents for iPad based service delivery. Some of these documents have been referred to in other sections of this report. All of these

<table>
<thead>
<tr>
<th>Responsibilities</th>
<th>Standard 14 Information management</th>
<th>Standard 9 Workforce planning</th>
<th>Standard 7 Blood and blood products</th>
<th>Standard 8 Preventing and Managing Pressure Injuries</th>
<th>Standard 9 Recognising and responding to Clinical Deterioration in Acute Health Care</th>
<th>Standard 10 Preventing falls and Harm from falls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard 12</td>
<td>Facilities management</td>
<td>21. Adequate performance</td>
<td>2.2 Commissioning of equipment</td>
<td>2.3 Risk management (technical)</td>
<td>3.2 Management of the business environment</td>
<td>Technology capability/capacity</td>
</tr>
<tr>
<td>Standard 13</td>
<td>Technology management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Reliability</td>
</tr>
</tbody>
</table>

- **Reliability**
  - Number of successful consultations
  - Data quality
  - Number of instances data was re-sent during/after tele-consultation (post measure)

- **Organisation Sustainability**
  - Cost to run the telehealth service for healthcare provider
  - Fixed cost in comparison to alternative modes of treatment
  - Variable cost in comparison to other modes of treatment
  - Savings in Cost for health care provider
  - Savings per patient per year to healthcare service provider
documents have been put together in this toolkit to assist other agencies and clinicians engage with telehealth.

**Improving Processes in Tele-Rehabilitation**

As described in the safety section, we also used mapping processes to monitor changes in processes that emerged as tele-rehabilitation was introduced. This allowed us to track changes in work load and work practices, to refine and streamline processes to increase efficiency and develop policies and procedures that supported the new service modality.

**Tele-rehabilitation processes: pre-discharge from inpatient service**

<table>
<thead>
<tr>
<th>Rehabilitation Service Coordinator:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>•</strong> Collects information about patient’s function and risks</td>
</tr>
<tr>
<td><strong>•</strong> Determines program requirements</td>
</tr>
<tr>
<td><strong>•</strong> Determines rehabilitation equipment requirements</td>
</tr>
<tr>
<td><strong>•</strong> Determines technical requirements</td>
</tr>
<tr>
<td><strong>•</strong> Determines support service requirements</td>
</tr>
<tr>
<td><strong>•</strong> Undertakes environmental risk and access assessment including technology setup</td>
</tr>
<tr>
<td><strong>•</strong> Orders rehabilitation and technical requirements</td>
</tr>
<tr>
<td><strong>•</strong> Equipment demonstrated to patient and undertakes an “orientation to technology”</td>
</tr>
<tr>
<td><strong>•</strong> Sets up patient’s rehabilitation video conference schedule for the first week at home</td>
</tr>
<tr>
<td><strong>•</strong> Organises delivery of rehabilitation and technical equipment to patient’s home</td>
</tr>
<tr>
<td><strong>•</strong> Organises delivery of support services to patient’s home</td>
</tr>
</tbody>
</table>

- **Bold – New or improved process**

Patient discharged from the inpatient service and admitted to home based Tele-Rehabilitation Service

Home Based Tele-Rehabilitation
In summary, this mapping process identified that new tele-rehabilitation processes were required to determine technical service requirements including equipment, the need for a more comprehensive risk assessment (see safety section) and improved organisation of the patient’s first week in the programme prior to discharge from hospital.

**Tele-rehabilitation processes: post-discharge from inpatient service**

A comprehensive home rehabilitation service will include regular therapy interventions, equipment provision, weekly multidisciplinary case conferences and discharge planning. Tele-rehabilitation allows the introduction of a programmed medical specialist review and family conference without the need for travel and the electronic transfer of therapeutic apps and rehabilitation resources.
Training in Tele-Rehabilitation

It has been clear that education and training are an essential component in implementing a safe and effective telehealth service. Staff have delivered training to health staff in other facilities, RACF carer staff and patients and family members/carers.

Presentations to health staff have focused on change management to encourage uptake from staff. Information presentations have described:
- telehealth to the home;
- telehealth equipment and applications;
- telehealth services implications for the service provider; and
- telehealth patient perspectives.

Clinical training has been provided to all the involved disciplines both cross-departmentally, intra-departmentally and to individual therapists. Specifically, clinical training has consisted of use of video conferencing, iPads by staff and students, use of applications and use of the wearable technology e.g. FitBit™.

Response to this training has been encouraging, with staff spontaneously beginning to consider how to incorporate these technologies into their clinical practice.

Carer training has been provided to Carer staff at residential aged care facilities and family member carers for patients living in their own home. Specifically, carer training consisted of:

- Residential Aged Care Facility Carers are trained in how to support a resident during a video conference and how to use video conferencing equipment. This involves a one off training session with the RACF IT person, and support and hands on experience with a trial nurse during the first video consultations, who provided input re role of the support person for the resident and problem solving of technical issues.

- Family member carers are trained how to set up an iPad, use the iPad tools and applications.

Response to training for RACF carer staff has been enthusiastic. Anecdotal accounts from staff indicate that they have learnt a lot, and feel that the service is beneficial. It has also been observed by trial staff who support the RACF service that staff at the RACFs are now quite confident in the use of the technology and comfortable in a videoconferencing consultation.

Family member carers have also been engaged with the training and are supportive of the service, as it allows them to be actively involved in the recovery of their loved one. 35% of carers in the rehabilitation component of the trial actively participated in the recovery process of their loved one.

The following case study provides an example of the role a carer plays in a tele-rehabilitation process.
Tele-Rehabilitation Case Study

Patient Background
- 66 year old male
- Presenting complaint: Left MCA Cerebrovascular Accident complicated by post thrombolysis haemorrhagic transformation
- Social history: Lives with wife in country South Australia
- Psychosocial: Wife and patient extremely anxious/stressed on discharge home from inpatient rehabilitation
- Diagnosis: Severe receptive, profound expressive aphasia compounded by apraxia of speech

Tele-Rehabilitation Service
- High dosage of therapy 4-5 x weekly
- Saved round trip of 100 mins travel
- Made very good progress considering initial severity
- Engaged with technology well
- Consistent positive feedback and indication would not prefer therapy via face to face sessions

Carer Involvement
- Wife able to receive emailed updates of functional word lists after every therapy session
- Wife comfortable to email with concerns that she didn’t want to raise in front of her husband
- Required support of another person to comfortably use technology, 1 x attempted session when wife out, wife needed to call and talk him through the process of answering
- Involvement of wife as therapy assistant required negotiation within relationship to manage new role
- Communication skills learnt by wife as therapy assistant helped when communicating with speech impaired husband and helped to support their relationship

Development of training tools and practice resources

A suite of videos have been developed to provide training around iPad delivered telehealth rehabilitation. One set of videos looks at telehealth from a clinician perspective. They illustrate:

- setting up a patients home for iPad based video conferencing /and tele-rehabilitation;
- delivering tele-physiotherapy using an iPad;
- delivering tele-speech therapy using an iPad;
- using electronic tools to support tele-rehabilitation;
- using an iPad to deliver remote video conferencing from a car; and
- a patient’s perspective on rehabilitation delivered remotely via iPad based video conferencing.
Another set of videos focus on the technical aspects of delivering rehabilitation via telehealth using an iPad. The videos illustrate:

- setting up an iPad for clinical video conferencing;
- setting up a video conferencing suite to deliver tele-therapy; and
- using a Mobile Device Manager to organise and streamline apps used in tele-rehabilitation.

All of these videos will be available to all interested parties on a web page on the Flinders University telehealth web site at http://www.flinders.edu.au/mnhs/telehealth/telehealth_home.cfm
Providing a Tele-Rehabilitation Service
Tele-Rehabilitation Service Model

Who was Suitable for Tele-Rehabilitation?

Eligibility for Tele-Rehabilitation

Affordable, easily accessible technology can be used to deliver multidisciplinary home based tele-rehabilitation. One of the potential barriers to using this approach is the perception that age and unfamiliarity with technology may make it less feasible for older patients. In a group of people receiving home rehabilitation, we examined what the effect of age and technological familiarity was on the utilisation of tele-rehabilitation services.

During our trial, information was collected on age, sex, occasions of service and time spent in video conferencing. At baseline, the Technology Familiarity Scale (TFS) and the Modified Computer Self Efficacy Scale (MCSES) was completed by all participants. At discharge they completed the System Usability Scale (SUS) and reported on percentage of goals attained.

Seventy-two community-based participants, 41 male, mean age 73.4 yrs took part in the tele-rehabilitation programme. We found that older people were less familiar with technology. There was a high correlation between Technology Familiarity Scale scores and both the number of video conferences and the total time spent video conferencing. Finally, a positive correlation was found between confidence in using technology (MCSES scores) and the percentage of goals attained. Acceptability, as measured with the System Usability Scale (SUS) was not correlated with age or previous exposure to technology.

In summary, our results suggest that

- the patient’s age should not be considered a barrier to telehealth use with older adults.
- Familiarity with technology and age were not related to the acceptability of tele-rehabilitation services.
- Technology familiarity is related to therapy dosage and therefore access to adequate training needs to be considered to enable successful participation.
TECHNOLOGY FAMILIARITY TOOL

We would like to find out how often you use everyday technology items. Please read through these statements and tick the box (v) that best represents how often you use these items.

How often do you............?

<table>
<thead>
<tr>
<th></th>
<th>More than once a day</th>
<th>More than once a week</th>
<th>More than once a month</th>
<th>Rarely or more than once a year</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Search for information on the internet</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Use the TV remote control</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Withdraw money from the ATM</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Deal with recorded telephone menus</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Tape a TV program using a recording device</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Send and receive emails</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Use a mobile phone</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Operate a telephone answering service such as an answering machine or voice mail</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Use a microwave oven</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Use the automated check-in process at airport</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>Play computer games</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Intake Process for Tele-Rehabilitation

Prior to admission to Rehabilitation in the Home, a patient and their home is assessed for appropriateness of the service for their needs. A referral for rehabilitation will accompany information regarding environment, patient care support needs and their willingness to receive rehabilitation at home. When considering a patient for tele-rehabilitation, intake processes will include assessment of the home’s connectivity, provision of suitable technical equipment and patient/carer familiarisation with technology. Key decision points are detailed below.

Summary of intake mapping process (Streaming into Tele-Rehab) findings which are describe in detail on page 22.

Clinical decision points
1. Patient’s belief in their ability to manage (measured using Generalised Self Efficacy Scale). Using this scale, scores between 28 and 40 represent a moderate to high perception of self-efficacy and patients with these scores should be considered for remote tele-rehabilitation services
2. Patient’s ability to learn and behave in safe, adaptive ways (cognitive function using MMSE and frontal behavioural characteristics (disinhibition, poor impulse control, poor judgement, poor insight)
3. Carer’s level of stress (Modified Carer Strain Index)

Technical decision points
1. There is only one technical decision point which occurs after the clinical considerations have been undertaken. This relates to internet connection, signal strength and support with technology.

General Self Efficacy Scale

<table>
<thead>
<tr>
<th></th>
<th>1 Not at all true</th>
<th>2 Hardly true</th>
<th>3 Moderately true</th>
<th>4 Exactly true</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I can always manage to solve difficult problems if I try hard enough.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>If someone opposes me, I can find the means and ways to get what I want.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>It is easy for me to stick to my aims and accomplish my goals.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>I am confident that I could deal efficiently with unexpected events.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Thanks to my resourcefulness, I know how to handle unforeseen situations.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>I can solve most problems if I invest the necessary effort.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>I can remain calm when facing difficulties because I can rely on my coping abilities.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>When I am confronted with a problem, I can usually find several solutions.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>If I am in trouble, I can usually think of a solution.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>I can usually handle whatever comes my way.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

40 = all statements are exactly true
10 = all statements are not true at all

English version by Ralf Schwarzer & Matthias Jerusalem, 1995
**The Carer Strain Index**

**The Caregiver Strain Index:** I am going to read a list of things that other people have found to be difficult. Would you tell me if any of these apply to you? (Give examples)

| Sleep is disturbed (e.g., because _____ is in and out of bed or wanders around at night) | Yes=1 | No=0 |
| It is inconvenient (e.g., because helping takes so much time or it’s a long drive over to help) |
| It is a physical strain (e.g., because of lifting in and out of a chair, effort or concentration is required) |
| It is confining (e.g., helping restricts free time or cannot go visiting) |
| There have been family adjustments (e.g., because helping has disrupted routine; there has been no privacy) |
| There have been changes in personal plans (e.g., had to turn down a job; could not go on vacation) |
| There have been other demands on my time (e.g., from other family members) |
| There have been emotional adjustments (e.g., because of severe arguments) |
| Some behavior is upsetting (e.g., because of incontinence; _____ has trouble remembering things; or _____ accuses people of taking things) |
| It is upsetting to find _____ has changed so much from his/her former self (e.g., he/she is a different person than he/she used to be) |
| There have been work adjustments (e.g., because of having to take time off) |
| It is a financial strain |
| Feeling completely overwhelmed (e.g., because of worry about _____; concerns about how you will manage) |

**TOTAL SCORE** (Count yes responses. Any positive answer may indicate a need for intervention in that area. A score of 7 or higher indicates a high level of stress.)
Translating Standard Clinical Service Delivery to Tele-Rehab Delivery

Translating Standard Therapy Practices into Tele-Rehabilitation

Phase 1
Task analysis

• First look at your therapy and analyse what a normal "therapy session" and therapy program looks like for you, in terms of the tasks undertaken and the timing and duration involved.
• Next look at what each session involves for the patient, specifically if it requires the patient to speak, write, work at a desk, perform exercises seated or standing, walking, performing an activity in a specific location or using equipment.
• You will need to identify any potential risks at the planning stage so that you can plan solutions prior to running the session.
• Also look at what you as the therapist need to do in order to deliver that therapy, specifically if it requires you to speak, write, show images, demonstrate exercises, demonstrate a task or activity, be seated or standing, be in a specific location or take in equipment to use during the video conference session.
• Now, thinking about the session, do you only need to view the patient and have them view you? Do they need to interact with an object/task while you are viewing them? If yes, do you need to interact with that object/task as well as view them? Can some of the tasks be done electronically with an app?

Phase 2
Technology assessment

• Next, once you know what you need to be able to do in your therapy session/program, look at the your technology and see if it can do what you want it to do.
• Specifically, is the video conferencing equipment in a room that is big enough for standing and moving, has enough light, is sufficiently sound proof, has space for "props" you might need to use or a second person if required?
• Can the patient access the equipment that will allow you to deliver the services, eg one or two tablet devices, something to position the device appropriately?
• Are they able to reliably connect to video conferencing?
• Is support (written or in person) available to help with problems with the equipment and applications?

Phase 3
Synthesis process

• Finally, look at tailoring the video conferencing facility and patient equipment to better assist with tele-delivery of services.
• Do you need anything extra to make it more workable for you? eg a document camera to display images rather than holding them up to the vc camera, a two way interactive whiteboard that allows you and the patient to write electronically during the session, an application that allows you to switch between camera views quickly and easily, an application that allows you to capture images of the patient doing a task and play them back during the video conference?
• Can somethings be done better electronically? eg homework tasks that are apps can be more engaging and get more use by the patient.
• Can you easily access and download the apps you use onto the devices you use, your own and the patients?
• Can you develop your own resources to help you to better use and problem solve with tele-delivered therapy?
Competency development by clinicians working in tele-rehabilitation

Benner’s Stages of Clinical Competence describe the acquisition and development of a skill. In her model a nurse passes through five levels of proficiency: novice, advanced beginner, competent, proficient, and expert, each level defined by description. (1984. *From novice to expert: Excellence and power in clinical nursing practice*. Menlo Park: Addison-Wesley, pp. 13-34). Alan Giles and John Howard, in their paper (Alan Gillies & John Howard (2003) Managing change in process and people: Combining a maturity model with a competency-based approach, Total Quality Management & Business Excellence, 14:7, 779-787, DOI:10.1080/1478336032000090996) describe a modification to this classification of competence. In their version, the level titles and their descriptions seemed better suited to the competency development processes clinicians working in tele-rehabilitation had experienced. Therefore it is this competency model which we have used in developing tele-rehabilitation competencies (see below).

**Six levels of the Performance Model (after Benner, 1984)**

<table>
<thead>
<tr>
<th>Level</th>
<th>Designation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Unskilled/Not relevant</td>
<td>The individual is unable to perform this skill even under is not required in this role.</td>
</tr>
<tr>
<td>1</td>
<td>Novice</td>
<td>The individual has little or no experience in this aspect. Able to under close instruction or guidance.</td>
</tr>
<tr>
<td>2</td>
<td>Learner</td>
<td>The individual has some experience in this aspect and is able to minimal day-to-day supervision but still requires regular as new situations arise.</td>
</tr>
<tr>
<td>3</td>
<td>Competent</td>
<td>The individual performs in this aspect regularly and is able to without supervision, on a day-to-day basis, but may need guidance or support when confronted with unusual situations.</td>
</tr>
<tr>
<td>4</td>
<td>Proficient</td>
<td>Skilful in this aspect. The individual has a wealth of experience with only managerial supervision. Is capable of demonstrating others.</td>
</tr>
<tr>
<td>5</td>
<td>Expert</td>
<td>Highly skilful in this aspect with several years experience. The intuitive grasp of the aspect and requires no supervision other governance. Acts as a mentor and innovator in this aspect.</td>
</tr>
</tbody>
</table>

We used this structure to describe levels of competency development which are outlined in the following table. However, we also felt that it was important to add a timeline into the document to incorporate timeframes into the maturation of competencies that is described. Like any competency, tele-rehabilitation competencies start off at a basic level and this level is acquired relatively quickly and this allows a clinician to use an existing service system. However, the development and translation work in tele-rehabilitation requires higher level competencies which can take as much as 18 months to evolve. It is at the higher end of these competencies that clinical and technology innovation and synthesis most readily occur.
Process and timeframe around development of tele-rehabilitation competencies

<table>
<thead>
<tr>
<th>Change to Clinical Practice for Therapists involved in Tele-Rehabilitation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Novice</strong>*</td>
</tr>
<tr>
<td>The individual has little or no experience in this aspect. Able to perform only under close instruction or guidance.</td>
</tr>
<tr>
<td>0 - 3 months</td>
</tr>
<tr>
<td>Learning to use the video conferencing facilities</td>
</tr>
<tr>
<td>Doing therapy the conventional way but in front of a camera</td>
</tr>
<tr>
<td>Looking into use of applications in therapy</td>
</tr>
<tr>
<td>Requires full on-site IT support</td>
</tr>
<tr>
<td>Therapists are being conservative about what therapy is delivered using video conferencing</td>
</tr>
</tbody>
</table>

Tele-rehabilitation competencies for clinicians

In our trial we have become aware that two levels of competencies are relevant for tele-rehabilitation practice.

- User level - which allows a clinician to use tele-rehabilitation processes that have already been developed
- Translator level – which allows a therapist to undertake the process of translating normal therapy to tele-rehabilitation and develop new processes.

**THERAPIST COMPETENCIES FOR TELE-REHABILITATION**

<table>
<thead>
<tr>
<th>THERAPIST – User Level</th>
<th>THERAPIST – Translator Level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Know how to:</strong></td>
<td><strong>Know how to:</strong></td>
</tr>
<tr>
<td>• Turn on the computer</td>
<td>• Assess and select relevant apps</td>
</tr>
<tr>
<td>• Log in to the videoconferencing system include awareness of correct password details</td>
<td>• Instruct patient on use of more complicated apps</td>
</tr>
<tr>
<td>• Dial and hang up include awareness of correct patient numbers/ID</td>
<td>• Translate therapy interventions and assessments from traditional method to tele-practice</td>
</tr>
<tr>
<td>• Increase/decrease sensitivity of microphone</td>
<td>• Incorporate safety and quality consideration into tele-practice</td>
</tr>
<tr>
<td>• Increase/decrease volume of speaker</td>
<td>• Change approach to ensure interventions are effective</td>
</tr>
<tr>
<td>• Use cameras to best advantage</td>
<td>• Understand the range of technologies that can be used to support remote delivery</td>
</tr>
<tr>
<td>• Zoom in and out</td>
<td>• Engage and support carers in delivering hands-on therapy</td>
</tr>
<tr>
<td>• Alter camera angle</td>
<td>• Provide clear and reasonable instruction</td>
</tr>
<tr>
<td>• Toggle between main camera and document camera</td>
<td>• Ask for and receive clear feedback to guide practice</td>
</tr>
<tr>
<td>• Instruct patient where to sit or stand</td>
<td>• build rapport for effective therapy</td>
</tr>
<tr>
<td>• Instruct patient where to place iPad</td>
<td>• understand carers’ limitations re therapeutic intervention. Most carers do not have formalised carer training in manual handling, motivational skills and therapeutic intervention.</td>
</tr>
<tr>
<td>• Use lighting effectively</td>
<td>• Explore new and innovative technological solutions to therapy</td>
</tr>
<tr>
<td>• Project documents, videos, pictures to patient</td>
<td>• Develop and access evidence for tele-rehab</td>
</tr>
<tr>
<td>• Use the interactive white board for therapy</td>
<td>• Monitor available therapeutic apps for usefulness</td>
</tr>
<tr>
<td>• Record and play back videos for biofeedback</td>
<td>• Be flexible in the delivery of tele-rehab</td>
</tr>
<tr>
<td>• Schedule patient appointments remotely</td>
<td></td>
</tr>
<tr>
<td>• Reboot computer in case of trouble shooting</td>
<td></td>
</tr>
<tr>
<td>• Promptly access IT support</td>
<td></td>
</tr>
<tr>
<td>• Assess patient’s baseline technology familiarity and confidence</td>
<td></td>
</tr>
<tr>
<td>• Provide a patient with simple verbal instructions to manage iPad</td>
<td></td>
</tr>
<tr>
<td>• Be focused throughout the session</td>
<td></td>
</tr>
<tr>
<td>• Engage in immediate feedback on exercises/therapy</td>
<td></td>
</tr>
</tbody>
</table>
Delivering Tele-Rehabilitation Services

Simple, affordable equipment / programmes / applications can be used to enable effective interventions via tele-health. These can work alone or in conjunction with each other. See individual user guides for more detail.

Tele-Rehabilitation Applications

1. Video-conferencing Platform

Name: Vidyo

Problem: Need for simple and secure video conferencing platform that would work on 3G enabled iPad.

Model chosen because:

- simple
- secure connection using encryption
- no need for patient to log in or dial out
- ability to work well over a low bandwidth

Use: The app is loaded on to the patient’s iPad so that they are able to open the app with one touch and then wait for the call from the therapist. The therapist opens Vidyo on the desktop, types in the call number specific for that patient or chooses the number from a drop down list (which if open on the patient’s iPad will be green) and clicks call. The patient can choose between decline and answer on the iPad screen.

2. Exercise App

Name: T-Rex (Tele-Rehabilitation Exercises)

Problem: Traditionally clinicians have provided handwritten or standard exercise sheets in paper form. With tele-rehabilitation there is a need for electronic versions, preferably with video to increase dosage, motivate the patient and ability to regularly change programme as patient improves providing variety to keep
motivated. Commercially available apps did not provide opportunity for the programme to be remotely updated by the therapist

Model developed because it:

- easy to use with no need for patient to log in or use their own email address
- enables remote set up or change in real time
- videos are of older models
- app is device agnostic
- programme can be left with patient post programme

Use: The patient is provided with app icon on iPad. The therapist can populate the programme and update regularly via the T-Rex website.

3. Virtual Camera

Name: ManyCam

Problem: The therapist is using a variety of different video sources and applications in the one therapy session. An application was sought to manage these easily.

Model chosen because:

- we were unable to find an equivalent alternative, other applications are based around social media and video creation and are not as well developed, less professional
- it is cheap and very easy to use
- it is possible to change between video sources, zoom in on each video, replay videos and change resolution

Use: To manage videoconferencing source (Vidyo), interactive whiteboard and Bandicam on the one screen.
4. Interactive Whiteboard

Name: Baiboard

Problem: A patient with aphasia may need to interact in therapy or be assessed using the written word or may not be able to understand verbal information. Usually, a therapist will provide written information or pictures to aid the therapy session or provide the patient with a pad and paper to record their responses.

Model chosen because it:

- easy to use with no need for patient to log in or use their own email address
- free and secure service working over encrypted connection
- enables remote setup using our mobile device manager
- allows therapist and patient to write information in free hand
- allows the therapist to download pictures or a document for the patient to see and interact with

Use: The patient is provided with two iPads – one for the videoconference and one for the whiteboard. The therapist uses an iPad in the V/C suite. This functionality enhances desktop therapy in particular, speech pathology and occupational therapy.

5. Desk Top Video Recorder
Name: Bandicam

Problem: Visual feedback is a tool often used by therapists to assist patients to learn new skills, make changes in technique or improve quality of movement or gait.

Model chosen because it:

- is cheap and very easy to use
- records content of videoconferences allowing an audio source which other products did not have
- allows replay of video during the therapy session for immediate feedback

Use: The application is on the desktop in the V/C suite and is manipulated using Manycam (see below)

8. Scheduling App

- assist with patient managing numerous appointments / visits / activities both therapeutic and personal during rehabilitation
- available apps too high functioning / too complicated / too visually busy / require too much input from patient eg outlook calendars
- particularly important when patient has cognitive or memory impairments
- need for reminders – visual and audio
- simplicity
- no log on
- family can interact and take over management post programme

Two web apps trialled:
a. Anna Cares – Clevertar© – adapted from standalone iPad app

![Anna Cares]

b. My eCare Diary – adapted from Unicare© system-wide app for managing care services for older community or residential care patients

![My eCare Diary]

Both apps developed:
- to allow remote appointment management by therapist, coordinator or family member
- provide reminders – Anna cares prior to event, My eCare Diary at time of event
- provide simple visual prompts with colour coding depending on currency
Tele-Rehabilitation Equipment

1. Activity Monitor

Name: FitBit - Zip

Problem: Monitoring of activity and motivation of patients to do their prescribed exercises or increase physical activity other than during specific therapy times is a challenge for all therapists. Various activity monitors and pedometers are available.

Model chosen because:

- small and easy to wear
- Low cost and available from local retail shops
- Synchs with a free app easily downloaded on to a tablet or phone although can function well without app. The information appears on the small screen with the tap of a fingernail.
- Has long battery life and is durable
- Can upload data to a central server for remote monitoring

Use: The patient wears this on their belt to measure the amount of activity, in particular steps taken, during the day. An associated app can be downloaded to their iPad with which the FitBit synchs to record activity over a period of time. The app allows ability to set daily goals, provides graphs of activity over time and sends motivational comments once goals have been reached. It was noted that slow walkers’ steps may not register with Fitbit placed at the waist. Studies have shown that placing it at the ankle or on the shoe registers the steps more accurately for slow walkers.

2. Powered, adjustable iPad stand

Name: Mophie Powerstand

Problem: During video conferencing, the position of the iPad and the camera view are essential to provide the therapist with adequate vision for effective therapy provision. The iPad needs to be upright and secure.
Model chosen because it:

- Allows the ipad to be positioned on different surfaces and be adjusted to obtain correct camera view
- Is easy to carry
- Charges through the stand
- Charging port easily seen and manipulated

Use: The ipad can remain in the stand at all times.

3. Document Camera

Name: Ipevo – Ziggi HD

Problem: During therapy, the therapist may need to show a patient a test, app, pictures or text. Initially, the therapist needed to hold the item up in front of the main videoconferencing camera. This did not provide close up and was awkward for therapist to be able to show the patient specific details.

Model chosen because it:

- Has USB connectivity – able to connect easily to desktop
- powers through the USB – did not need separate power source
- has high definition and auto focus – providing better picture quality
- is easily manipulated / positioned over the document
- is the cheapest model on the market with USB capability – meeting our low tech, low cost brief
- allows therapist to show a patient specific, close up details of a document or app

Use: The document camera is placed next to the main screen in the V/C suite. All therapists needing this functionality have used the document camera.
Tele-Rehabilitation Web Based Resources

Facilitating Utilisation of Commercially Available Apps

During the trial, it became clear that there were many relevant, commercially available apps that could be used in the tele-rehabiliation environment. It became clear that there were two ways in which these apps could be utilised. Firstly, they are of use in delivering the primary therapy during the program and secondly, in delivering the homework and therapeutic activity which supported it.

One constraint is that finding relevant apps within the sales environment can be time consuming and frustrating. As our own “collection of apps” grew it made sense to organise them and to do so in a manner which makes them available to other potential users.

Anecdotal feedback from trial participants is that, due to the engaging nature of these Apps, they are spending more time on therapy and therapeutic activity involving the apps. There is evidence that rehabilitation outcomes are related to therapy “dose” (Van Peppen 2004, Kwakkel 2004) so activities which facilitate achieving that dose are likely to lead to improved outcomes and a better quality service.

The key to using these Apps successfully is in selecting apps that match both the content required for recovery with a design that facilitates use and engagement. In assessing Apps the following criteria were used:

- therapeutic content
- provision of performance feedback to users
- use of graded levels to accommodate learning
- can return to a point in the application if use is suspended
- need for an internet connection to run
- presence of advertising
- sales content

The full version of this app sorting tool is displayed below.

The category of each App reflects the therapeutic content of the app with elements of the app design either supporting or undermining the level suggested by therapeutic content. For example, the gold apps have “Specific rehab content and are tailored for a specific diagnosis and disability” and the design features either support or do not undermine that, so it is “gold”. Examples of design features that can undermine therapeutic content are intrusive sales and advertising content and features that support it are grading within the activity and the ability to return to the app at the place/level you left it.

To facilitate use of these Apps as part of a recovery process, we developed a web based library of commercially available Apps that therapists have determined have therapeutic value (http://www.flinders.edu.au/mnhs/telehealth/resources/therapeutic-apps.cfm). Therapeutic Apps web pages have been built as well as pages with web links to other sorted app web sites. The Therapeutic Apps have been classified by the body part they target and the device they can be used on (iPads, Android and Windows tablets). These pages are designed for both therapists and people with a disability to use to support or extend therapeutic activity. The web links to other sites are sorted by the discipline they are designed to serve and by diagnostic group.
<table>
<thead>
<tr>
<th>APP characteristics</th>
<th>Gold</th>
<th>Silver</th>
<th>Bronze</th>
</tr>
</thead>
<tbody>
<tr>
<td>Therapy content</td>
<td>Specific rehab content and tailored for a specific diagnosis and disability</td>
<td>Rehab content or restoration focused with broad application in disabled and general population</td>
<td>Improvement focus aimed for general population</td>
</tr>
<tr>
<td>Performance feedback availability</td>
<td>Immediate and stored for later review</td>
<td>Immediate only</td>
<td>None</td>
</tr>
<tr>
<td>Graded levels to accommodate learning</td>
<td>Graded levels with voluntary movement from one to another</td>
<td>Graded levels which occur automatically</td>
<td>No levels</td>
</tr>
<tr>
<td>Remembers place so can leave and return</td>
<td>If relevant to function allows you to return to place in activity</td>
<td>If relevant to function allows you to return to place in activity</td>
<td>No memory</td>
</tr>
<tr>
<td>Activity communicates with internet based content</td>
<td>Permits it through voluntary option choice</td>
<td>Permits it through voluntary option choice</td>
<td>Automatic connection, no personal alterations allowed</td>
</tr>
<tr>
<td>Advertising content</td>
<td>None</td>
<td>Shows once and easily dismissed so not a significant intrusion on activity</td>
<td>Shows multiple times, dismissed repeatedly and a significant distraction for activity</td>
</tr>
<tr>
<td>Sales content</td>
<td>None</td>
<td>Shows once and easily dismissed so not a significant intrusion on activity</td>
<td>Shows multiple times, dismissed repeatedly and a significant distraction for activity</td>
</tr>
</tbody>
</table>
Clinical Principles and Lessons Learned

The delivery of tele-rehabilitation involved a trial and error approach by clinicians providing real therapy to real patients. Whilst videoconferencing can be used effectively to provide therapeutic interventions, there are key principles that, if followed, will ensure a quality intervention.

<table>
<thead>
<tr>
<th>Tele-Rehabilitation Clinicians - Key lessons learned</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Be prepared; its better to do your thinking and problem solving outside of the video conference</td>
</tr>
<tr>
<td>• Be in the present throughout the session as the patient is focusing on you</td>
</tr>
<tr>
<td>• Actively seek feedback from the patient re their performance and how they are feeling</td>
</tr>
<tr>
<td>• Check the view of yourself- that is what the patient is seeing</td>
</tr>
<tr>
<td>• Know how to provide simple(jargon free) trouble shooting directions over the phone</td>
</tr>
<tr>
<td>• Know what the patient will see on their home page, tool bar and when they open a video conference, to help with trouble shooting</td>
</tr>
<tr>
<td>• Be conscious of making eye contact; to achieve this you need to look at the camera. Constantly looking at the image of the patient on the screen may give the illusion that the patient is not receiving your full attention</td>
</tr>
<tr>
<td>• Care giver presence is usually required for patients with at least moderate cognitive impairment</td>
</tr>
<tr>
<td>• Thinking about the modality of delivery of a task (e.g. visual, written) can help with problem solving a way to translate it to telehealth</td>
</tr>
<tr>
<td>• Always have the patient’s phone number on standby</td>
</tr>
<tr>
<td>• Be aware of a patient’s technology familiarity</td>
</tr>
<tr>
<td>• Know the most frequently encountered technical problems and possible solutions</td>
</tr>
<tr>
<td>• When in doubt, turn the device off and on again (or instruct the patient to do so)</td>
</tr>
<tr>
<td>• Be aware that there can be a difference between upload and download quality in a video conference, as a result, although you may have a good connection, the patient may not, it is always good to confirm that the patient has a good connection</td>
</tr>
<tr>
<td>• If using an iPad for stimuli/interactive whiteboard, remember to charge it</td>
</tr>
<tr>
<td>• Practice with your system before starting to see clients, this will help with building confidence and understanding system capabilities</td>
</tr>
</tbody>
</table>
Conclusion

In conclusion, Telehealth offers exciting opportunities for both clinicians and patients to not just extend but also improve the way rehabilitation and aged care services are delivered. At their best, telehealth services offer a way to redress disadvantage related to disability (inability to travel, fragile health status etc) and residential location (country, outer metro) by offering high quality services direct to the home. In some cases in tele-rehabilitation, the electronic interventions can work better than conventional services at engaging the patient and delivering palatable, rewarding interventions. However, translating normal practice to telehealth practice is an active process and requires more than moving it to a video conferencing suite. Even when the intervention is the same, the context is different and considerations such as risk and quality must be revisited. This will prove challenging initially as existing safety and quality frameworks within health do not provide an adequate framework for managing telehealth services.
Resources to support a Tele-Rehabilitation Service
Clinical Resources
INTRODUCTION TO TELE-REHABILITATION

A telehealth environment offers opportunity for remote based therapy in 3 general categories depending on the nature of the intervention

- Interview
- Desktop
- Activity or Exercise

Set up and equipment will vary depending on:

- nature of intervention
- needs of patient
- number of people involved in session (carer, other therapists)
- number of parties connected to videoconference call.

ETIQUETTE

- Start and finish on time there may be other room bookings, booked to begin immediately after yours
- Ensure the door is closed and background noise is eliminated
- Speak clearly and loudly but do not shout
- Confirm the patient can see and hear you clearly
- Allow for a delay in audio, pause and don’t rush responses.
- Seek consent from the patient:
  - To conduct therapy session
  - For the presence of any observers in the room
- Introduce all people in room, including people outside of the field of view
- Provide regular eye contact by looking directly at the camera lens, rather than at the image of the patient
- Be patient and understanding in response to difficulty using or positioning equipment
- Ask whether the patient has experienced any technical difficulties
- Be prepared for the session

PREPARATION

- Book VC conference times via specified calendar.
- Before beginning session, know of whereabouts of technical support and their contact details. Sometimes other staff familiar with the system can help also.
- Have contingency plan if things don’t go to plan. Discuss this with patient before beginning therapy session.
- Be prepared to contact patient by phone in case of connection issues.
- Prepare patients for content of session in advance eg switching camera views, what will be required of them and/or their carer
- Be aware of patient capabilities and potential risks
- Make sure all equipment both for patient and for therapist is readily available
EQUIPMENT

EQUIPMENT FOR THERAPIST

To conduct interview based interventions via tele-health, the equipment set up is very simple: A cellular enabled iPad with a videoconferencing app such as Vidyo for both therapist and patient. These can be placed wherever convenient. For more complex interventions, the following equipment may be required:

- Computer hard drive
- Two computer screens
- Video conferencing program (E.g. Vidyo)
- Internet access
- Microsoft word
- USB port
- Keyboard
- Echo cancelling speaker/microphone
- Document camera
- ManyCam program
- DTN set—up as required with appropriate bookings made via Telepresence Management Suite (TMS)
- Adequate space for therapy session.
  - Enough room to demonstrate standing exercises with chair/step/wobble board/weights.
  - plinth if required
  - Consider the number of people in the room who will need to be seen by the camera.
- Appropriate therapy equipment – weights etc

Mobile equipment:

- iPad with 3G capability (visually similar configuration of home screen to patients’ iPads)
- Video conferencing program
- Relevant apps
- Interactive whiteboard (E.g. BaiBoard)
- Stylus (optional)

EQUIPMENT FOR PATIENT / CARER

- iPad with 3G capability loaded with suitable therapeutic apps
- Adjustable iPad stand
- Charger
- Stylus (optional)
- Optional second iPad loaded with interactive whiteboard program (E.g. BaiBoard)
- iPad and videoconferencing instruction manual
- Appropriate therapy equipment – weights etc
POSITIONING FOR FACE-FACE / DESK TOP THERAPY

iPad Placement: The iPad stand should be placed on a stable surface at chest height.

iPad orientation: The iPad should be oriented in the horizontal plane (landscape) during video calls. In this orientation, the patient will see a full screen view of the clinician, with a small self-view box in the bottom corner.

If the iPad is positioned in the vertical plane (portrait), a split screen image will occur. This orientation also results in a zoomed in effect.

The patient may require simple instructions to rotate the iPad to the horizontal plane and position themselves within the camera’s field of view. The patient may need to be prompted to use the self-view image to assist positioning.

Lighting: Lighting should be directly on the patient. If lighting is behind the patient, it may create a silhouette effect. The patient may require instructions to select an area with suitable lighting.

Sound: Video conferencing is best conducted in a quiet room with no background noise. Patients may need to be prompted to close doors and windows, turn off the TV and move away from rooms with background activity.

THERAPIST

Camera orientation: The therapist should be aware of their positioning in relation to the camera – this could be attached to a wall bracket or on top of the desk top computer. For general discussions and desktop activities the therapist’s face should be clearly visible in the centre of the frame. The therapist can check this in the self-view in the bottom corner.

Note:

a) to establish direct eye contact with the patient it is necessary to look directly into the camera.

b) ‘self view’ is a mirror image

Lighting: The room should be well lit, preferable with natural sources of light in front or to side of the therapist.

Sound: A well set up video conferencing suite should have good soundproofing to ensure confidentiality during therapy sessions. It is recommended to avoid conducting a videoconference in an open office space where there may be external distractions eg phones ringing, other conversations.

POSITIONING FOR FULL BODY / STANDING / EXERCISE THERAPY

PATIENT

iPad Placement: The iPad stand may need to be placed on a chair seat, floor or far enough away from the patient to obtain a full body view of the patient lying, sitting, standing or walking. This can be changed during the treatment as needed by the patient/carer e.g positioned at the side of the patient for sit to stand practice and positioned facing the patient at the end of a walk way for walking practice.
If possible, on initial assessment, the camera on the ipad (in landscape view) can be used to establish the best position for:

a) the ipad

b) the patient.

These positions can be marked with tape for future reference.

iPad orientation: see above

Lighting: see above.

Sound: see above

THERAPIST

Camera orientation: The therapist should be aware of their positioning in relation to the camera – this could be attached to a wall bracket or on top of the desk top computer. To enable the therapist to demonstrate full body exercises, there needs to be sufficient room to move back from the camera and remain clearly visible in the centre of the frame. The therapist can check this in the self-view in the bottom corner.

Lighting: See above

Sound: See above
OCCUPATIONAL THERAPY VIA TELE-HEALTH

The following descriptions are based on the premise that assessment and therapy tasks can be described in terms of the modalities of the stimuli and response (e.g. verbal, visual, auditory, gestural). For example, a task may be performed with both the clinician and patient speaking (verbal stimuli with verbal response) or with the clinician showing a picture which the patient names (verbal stimuli with verbal response).

All videoconferencing for occupational therapy will require at least a main computer with a webcam, microphone, speaker and videoconferencing program. A two screen set up is preferable. Recommended equipment in this document is in addition to that required for a basic set up.

1. INITIAL ASSESSMENT

Conversational Assessment:
E.g. social situation, home environment, occupational profile, concerns, goals and any relevant objective information.

Can be performed using only the web main camera and speaker/microphone

2. COGNITIVE ASSESSMENT

E.g. Mini-Mental State Examination (MMSE), Montreal Cognitive Assessment (MoCA), Addenbrooke’s Cognitive Examination (ACE-R)

Equipment:
- Document camera
- ManyCam program
- Clinician iPad
- Second patient iPad
- BaiBoard app

(Refer to user guides)

Instructions:
- Obtain subjective information via the main camera and speaker/microphone
- Provide verbal task instructions via the main camera and speaker/microphone
  i.e. “Tell me the date today”
  i.e. “Count by subtracting seven from 100, and then, keep subtracting seven from your answer until I tell you to stop.”
  i.e. “Suppose you smelled a gas odour in your house, what would you do?”
- Provide visual tasks by placing pictures/images/objects under the document camera, then switch to the document camera using ManyCam program.
  i.e. naming tasks, object recognition, reading and comprehension of written instructions
- For tasks that require writing/copying/drawing, the clinician uses their iPad, and the client interacts using the BaiBoard app on their second iPad.
- Prior to appointment, clinician to take photos of stimuli using iPad camera or find images from the internet. These will be stored in the clinicians iPad photo album
  i.e. cube, intersecting pentagons, trail making task
- The patient is instructed to open the BaiBoard app on their second iPad, and verbal instructions are provided via the main camera
  i.e. “copy this drawing”
i.e. “write a sentence of your choice”
i.e. “draw a clock. Put in all the numbers and set the time to…”

3. VISUAL/PERCEPTUAL ASSESSMENT

e.g. Spatial Relations, Agnosia, Neglect, Visual-perceptual, Functional Skills

Equipment:
- Document camera
- ManyCam program
- Clinician iPad
- Second patient iPad
- BaiBoard app
(Refer to user guides)

Instructions:
- Obtain subjective information via the main web camera and speaker/microphone
  i.e. difficulties with perceiving depth, blurriness or double vision
- Provide verbal task instructions and observe function via the main camera and speaker/microphone
  i.e. praxis – pen use for writing, “show me how you would smile”, “what is this object, how would you use it?”
  i.e. body scheme - “show me your left hand”
  i.e. spatial relations – using objects in patients workspace, “nearest, furthest” etc
  i.e. acuity – reading a medication label, bill etc
- Provide visual tasks by placing pictures and images under the document camera, then switch to the document camera using ManyCam program.
  i.e. Agnosia - Colour naming, figure ground, shape constancy, form discrimination, reading, object naming
- For tasks that require writing/copying/drawing, the clinician uses their iPad and the client interacts using the BaiBoard app on their second iPad.
- Prior to appointment, clinician to take photos of stimuli using iPad camera or download images from the internet. These will be stored in the clinicians iPad photo album.
- The patient is instructed to open the BaiBoard app on their second iPad, and verbal instructions are provided via the main camera
  i.e. neglect – “copy this picture”, “draw a clock”, line bisection task, letter cancellation task
  i.e. functional skills – handwriting, telling the time
  i.e. Reading - acuity

4. UPPER LIMB ASSESSMENT

e.g. Visuospatial Relations, Agnosia, Praxis

Equipment:
- Document camera
- Clinician iPad
- Second patient iPad
- BaiBoard app
(Refer to user guides)
Instructions:

- Obtain subjective information via the main web camera and speaker/microphone
  - i.e. Pain (severity, type) and location, hand dominance, sensory changes, current level of function and goals
- Obtain objective information visually via the main web camera and speaker/microphone.
- Verbal instructions are provided, and demonstration of tasks can be completed via the main web camera. iPad positioning may need to be altered to ensure appropriate view.
  - i.e. Oedema, inattention, active ROM, passive ROM, co-ordination/ataxia and performance of basic functional tasks
- If required, and if a carer/family member is available, the clinician can provide instructions to the carer/family member via the main web camera to assist with assessment.
  - i.e. Protective and discriminatory sensation
  - i.e. Passive ROM
  - i.e. Subluxation

5. HOME ASSESSMENT

Equipment:
- For photos - Second patient iPad, BaiBoard app, camera app are used

Instructions:
- The main iPad camera and speaker/microphone can be used to view the home environment, in order to make recommendations (i.e. falls prevention, home modifications, equipment needs)
- Patient/carer/allied health assistance carries iPad around the home, with iPad facing away from them.
- It is possible to change the orientation of the camera if patient can follow instructions
- OT provides verbal instructions regarding positioning of iPad in order for required view/images to be obtained
- Patient can use camera app on second iPad to take photographs of specific areas on instruction of OT. Photo can then be uploaded via BaiBoard app for OT to see (and save for use as part of a home modification request if required).

6. INTERVENTION

Equipment:
- Document camera
- Clinician iPad
- Second patient iPad
- BaiBoard app
(Refer to user guides)

- Additional resources can be posted out to patient i.e. strengthening materials, bradflex, compression gloves etc.
- iPad applications (apps) can be loaded onto the patient’s iPad for use within therapy sessions, and for self-directed practice.

Instructions:
- Clinician can use own iPad under the document camera, and then switch to ManyCam app to demonstrate and train in use of apps
7. IPAD APPS AVAILABLE FOR THERAPY:

Cognition
- Fit Brains and Fit Brains Memory
- Lumosity
- Money Mind Au

Perception
- Clock face test
- Doodle find

FULL LIST OF CATEGORISED OT APPS:

Perception

Visual perceptual
- TriZen free
- Clockface test
- Imazing
- Tangram
- Doodlefit2
- Pair up Free
- Match that
- Matrix Game2

Figure ground
- Doodle find
- Look again
- Hidden objects
- Search 60
- Hidden Objects
- iOT session

Left/Right Discrimination
- Recognise
- Physio fun limbs

Visual Attention
- Eye chart pro
- React
- Visual attention TherAppy
- Dots fast tap
- Eye exercises lite

Cognition

Brain training
- Fit Brains
- Lumosity
- Elevate
- Brain Reactor
- Working Memory trainer

• Recognise

Vision
- Visual attention TherAppy
- iOT session

Upper Limb
- Stroke Link
- Dexteria

• Brainy App
- Clockwork Brain
- 11+ NVR

Limitless Planning/problem solving
- Flow free
- Blocks
- Bubble ball
- Brain games
- Left vs right
- Peg genius
- React Tap

Calendars, reminders, planners
- Wunderlist
- Do!
- EvernoteCalendars

Visual Memory/Attention
- Fit Brains Memory
- Matches2
- STT Casual
- Bonus games
- Colour Tapper

Money Management /Arithmetic/calculations
- Money Mind Au
- Arithmetic
- Train your brain
- Math board

Word and number games
- Guess a word
- Crosswords
- Word search
- Hangman
- I associate 2
- Letris 2
- Sudoku
Upper Limb
- Dexterity
- Stroke Link
- Senso Move
- Bubble popper
- Fruit ninja
- Finger sprint
- Fast tap
- Piano Tiles

Handwriting/typing
- Doodle buddy
- Tap typing
- Colouring book
- Itype fast HD
- Finger Motion
- Handwriting
- Inkflow

Home Modifications
- idaptCalc
- Clinometer
- Magic Plan
- My Sketch Pro
- All level system

ADLs / Functional Tasks
- Telling time
- Can Plan
- Functional Planning system
- Routine
- Beep me
- Errands
- Pill monitor
- Big W
- Woolworths
- Yellow pages
- 30/30

Education
- Stroke Link
- SSRG - Senior Southern Services Directory
- 3D brain
- Anatomy
- Brain Anatomy
- Better health channel
- Breathe to relax
- Parkinson’s point of care

Games
- Tertis blitz
- Solitaire
- Candy crush
- 4 in a row
PHYSIOTHERAPY VIA TELE-HEALTH

PREPARATION: Essential in all aspects of assessing and treating via tele-health

Therapist

- Environment of the therapist determines the exercises that they can demonstrate to the patient. A larger room may need to be booked if the therapist wishes to show exercises in lying, on a plinth, in standing.
- Prepare for the exercises that the patient will perform and any equipment needed
- Know current mobility levels of the patient before the session. Observation of patient prior to session will not be possible.
- Be aware of relevant comorbidities that may impact on therapy i.e. Low BP, poor vision or hearing
- Consider the patient’s level of risk taking, cognitive level and ability to follow instructions quickly and accurately

Patient

- Prepare their environment- i.e. de-clutter, remove trip hazards, allow space and camera visuals for walking and turning
- Equipment or room markings need to be marked as part of preparation for mobility/standing and collecting outcome measures. The patient or carer may be able to roughly estimate the distance i.e by using large strides as 1 metre, know room dimensions and calculate from this
- Ask the patient to feedback re:
  - discomfort or pain during an exercise or walking so that they do not push their limb/body beyond acceptable discomfort levels
  - their performance

DURING SESSION:

- Provide clear outline of intervention/assessment to the patient/carer at the start of each session
- Observation and patient feedback will replace therapist hands-on feedback.
- Observe quality of performance. This will aid in assessing balance, muscle power and functional ability e.g. if patient is standing up from a chair- as they stand, notice which leg is leading, if one leg is forward of the other- this will give insight in to leg dominance and lead to muscle power assessment
- Communication is the key to delivering the session. Giving clear and easy instructions to the patient/carer.
- Seek constant feedback about discomfort or pain, the patients’ performance and from carer
- Build rapport with patient/ carer leads to a shared understanding of the task and reduces risk

SAFETY / RISK ASSESSMENT:

- Assess risk taking levels of patient and carer
- Estimate potential space needed for exercises- standing, lying, sitting, walking, jumping and turning
- Be mindful of obstacles in patient’s environment
- Be aware of type of flooring- noting hard versus soft flooring.
• Note patients clothing and shoes so that exercises are not compromised and clothing and foot wear are not a safety risk.
• Consider patient’s and carer’s cognitive level and ability to follow instructions and respond to feedback i.e. so that they do not push their limb/body beyond acceptable discomfort levels.
• Consider the carer’s age and their relationship to the patient.
• Determine the level of the carer’s handling skills.
• Educate the carer around the exercises you wanting them to perform. Explain the exercises in more general terms.
  For example: When they are holding and moving a limb: ‘Sarah (carer), can you feel any resistance to the movement, does it feel as if Mr X (patient) is pushing against you?’ ‘Mr X are you pushing against Sarah?’
  You are encouraging the carer/patient relationship around treatment and so sustainability of practice.
• Support and encourage the carer that they are helping and are doing well in providing the intervention.
• Teach a skill so that it easy to practice between sessions.
  - step 1: show
  - step 2: show and explain
  - step 3: show and they explain
  - step 4: they show and explain.
• Give the carer information on how to adapt exercises.

ASSESSMENTS or INTERVENTIONS

For all Physiotherapy interventions the following equipment is required:

• Main web cam

To analyse movement and provide visual feedback:

• Bandicam – see user guide

RANGE of MOVEMENT

Prepare camera positions for the best view of the limb or trunk. The iPad cannot zoom in or out and will need to be moved backwards or forwards for a side on view or whole body view.

1. Carer or assistant present

Clinician can measure ROM by using Goniometer on the screen.

Feedback from the carer and patient re: pain, how the movement feels especially with decreased sensation.

2. No carer or assistant present

Limited assessment of passive range is possible particularly rotation or accessory movements.
STRENGTH:

1. Carer or assistant present
Have different weights available to the patient to aid with assessment and/or use functional tasks to assess strength i.e. we know someone has 5/5 gastrocnemius power, if they can stand on the ball of one foot.

2. No carer or assistant present
Use other limb as resistance as possible.

PAIN:

1. Carer or assistant present
Ask the carer to palpate the affected area with constant discussion around what they might be feeling and how firmly they are touching.

2. No carer or assistant present
Ask the patient to palpate the area that is painful with the other hand with specific instructions from the therapist in simple layman’s terms:
   - Locate using bony points
   - Seek feedback from patient about: level of touch that produces pain i.e.- light, medium, hard touch, heat radiating compared to the other side
   - Use visual and patient’s feedback to assess swelling, comparing one side to the other.

SENSATION:

1. Carer or assistant present
Instruct the carer how to perform the test without the patient in hearing distance

2. No carer or assistant present
Limited ability

FUNCTION:

In lying, side view is easier to see most of the exercise. Patient to place the ipad on the affected side.

In sitting, for reaching exercises - iPad front on, for sit to stand - iPad side on.

In standing, good to view from front/back and side with carer moving iPad. If no carer present, perform a few tasks/exercises in one position before moving iPad.

TRANSFERS:

1. Carer or assistant present
If carer and patient are performing a transfer that is usual for them, ask them to demonstrate and record with Bandicam to trouble shoot.
2. No carer or assistant present

Ask the patient to perform their usual transfer and record and trouble shoot with Bandicam.

TONE:

1. Carer or assistant present

Prepare the carer pre session. Constant communication regarding what the carer is feeling when they are moving the patient.

2. No Carer or assistant to present

Assess using observation skills. Not able to formally assess.

BALANCE:

1. Carer or assistant present

Balance assessments can be modified as you go with feedback from the carer re the level of hands on assistance they are giving.

2. No carer or assistant present

Assume reasonable functional balance if the patient is at home and they are independent with their mobility. If they are using a walking aid, have this in front of them while they are performing the exercise. Be aware of supports available - walls, kitchen benches and patient’s ability to respond to instructions and modify their risk.

GAIT:

Ensure total body view of patient is available when assessing gait. This enables video-recording and re-play for feedback.

ACTIVITY MONITORING/EXERCISE PRESCRIPTION / REVIEW:

Equipment and apps available to assist - www.flinders.edu.au/mnhs/telehealth/resources/therapeutic-apps.cfm
SPEECH PATHOLOGY VIA TELE-HEALTH

The following descriptions are based on the premise that assessment and therapy tasks can be described in terms of the modalities of the stimuli and response (e.g. verbal, visual, auditory, gestural). For example, a task may be performed with both the clinician and patient speaking (verbal stimuli with verbal response) or with the clinician showing a picture which the patient names (verbal stimuli with verbal response).

All videoconferencing for speech pathology will require at least a main computer with a webcam, microphone, speaker and videoconferencing program. A two screen set up is preferable. Recommended equipment in this document is in addition to that required for a basic set up.

1. CONVERSATIONAL INTERVENTIONS

1a Case History / Counselling / Verbal Education
Can be performed in an interview based interaction using only a basic set up.

1b Education with Visual Stimuli
- E.g. Training use of iPad, training use of apps, site of lesion education

1. Hard Copy Picture stimuli & iPad based stimuli
   Equipment:
   - Document camera
   - Multiple webcam operating program (E.g. ManyCam)
   - iPad & apps (if relevant to activity)
   Instructions:
   - Provide verbal education via main webcam and microphone/speaker.
   - Place stimuli under document camera.
   - When visual stimuli required, use ManyCam to switch to document camera & adjust zoom, continue with verbal explanation while pointing to picture or demonstrating process on iPad.
   - Toggle back to main webcam when stimuli no longer required.

2. Computer Based Stimuli (e.g. pictures, documents, websites, etc.) via ManyCam
   Equipment:
   - Electronic stimuli
   - Multiple webcam operating program (E.g. ManyCam) set up with option to project desktop (see user guide)
   Instructions:
   - Provide verbal education via main webcam and microphone speaker.
   - Project second desktop using ManyCam (see user guide) and open stimuli on desktop at relevant points in education session.
   - Toggle back to main webcam when stimuli no longer needed.

3. Computer Based Stimuli (e.g. pictures, videos, websites) via Vidyo
   Equipment:
   - Electronic stimuli
Second desktop projecting feature in videoconferencing program (Vidyo)

Instructions:
- Provide verbal education via main webcam and microphone speaker.
- Open stimuli on second computer desktop.
- Project second screen using Vidyo (see user guide).
- Patient will see a three way split screen.
- Patient can enlarge target image by double tapping on it (same method for reducing).
- Cease projection when stimuli no longer required.

2. LANGUAGE

2a Verbal Stimuli with Verbal Response
- *E.g. Repetition, word Fluency, responsive naming, sentence completion*
Can be performed using only a basic set up.

2b Visual Stimuli with Verbal Response
- *E.g. Picture Description*

1. Hard Copy Pictures
   Equipment:
   - Document camera
   - Multiple webcam operating program (*E.g. ManyCam*)
   Instructions:
   - Place stimuli under document camera.
   - Use *ManyCam* to switch to document camera, to adjust zoom and to alternate between cameras for cueing and feedback.

2. Electronic Pictures (via ManyCam)
   Equipment:
   - Electronic picture
   - Multiple webcam operating program (*E.g. ManyCam*) set up with option to project desktop (*see user guide*)
   Instructions:
   - Project second desktop using *ManyCam (see user guide)*.
   - Open picture on second desktop.
   - Provide verbal cueing via microphone/speaker, toggle back to main webcam to provide visual cues.

3. Electronic Pictures (via Vidyo)
   Equipment:
   - Electronic picture
   - Second desktop projecting feature in videoconferencing program (*Vidyo*)
   Instructions:
   - Open picture on second computer desktop.
   - Project second screen using *Vidyo (see user guide)*.
   - Patient will see a three way split screen.
• Patient can enlarge target image by double tapping on it (same method for reducing).
• Provide verbal cueing via main webcam and microphone/speaker.

2c Picture/Object Stimuli with Verbal Response
• E.g. Picture naming, Boston Naming Test, Western Aphasia Battery – Revised (WAB-R) Object Naming Subtest

1. Holding up pictures or objects
   This method relies only on a basic set up and a steady hand. This can be physically tiring for the clinician and is not recommended.

2. Projecting pictures via a document camera

See section on Visual Stimuli with Verbal Response (2b)

2d Picture Stimuli with Gestural Response i.e. Semantic Matching Tasks
• E.g. Pyramids and Palm Trees

1. Caregiver or assistant present
   Equipment:
   • Document camera
   • Multiple webcam operating program (E.g. ManyCam)
   Instructions:
   • Place stimuli under document camera.
   • Use ManyCam to switch to document camera to show stimuli and adjust zoom.
   • Instruct patient to point to correct image on their screen.
   • Instruct caregiver or assistant to describe where the patient pointed (e.g. left picture).
   • Use ManyCam to alternate between document camera and main webcam for cueing and feedback.

2. No caregiver or assistant present
   Equipment:
   • Clinician iPad
   • Patient iPad
   • Shared whiteboard app (E.g. BaiBoard)
   Instructions:
   • Prior to appointment, clinician to take photos of stimuli using iPad camera, these will be stored in the iPad photo album.
   • Clinician and patient to open shared board on BaiBoard.
   • Clinician to import image of stimuli from photo album into BaiBoard.
   • Patient to circle/mark correct image.
   • Clinician to clear board and import next image.
   • Cueing can be provided via the main camera and speaker/microphone throughout the assessment.

2e Semantic Feature Analysis (SFA) & Phonological Components Analysis (PCA):

1. Projected word document
Equipment:
- 2 computer screens
- Microsoft Word or Publisher document
- Second screen projecting feature in videoconferencing program (E.g. Vidyo)

Instructions:
- Clinician to open document and import picture.
- Clinician to project second screen or document to patient’s iPad (see Vidyo user guide).
- Patient will see 3 way screen with image of clinician, self and document.
- Clinician to cues patient to identify semantic features or phonological components.
- Clinician to type around picture to map these.
- Patient can enlarge view of projected document by double tapping on it (reduce via same method).
- Clinician to stop projection of document at end of task.

2. Shared whiteboard

Equipment:
- Clinician iPad
- Patient iPad
- Shared whiteboard app (E.g. BaiBoard)

Instructions:
- Clinician and patient to open shared board on BaiBoard.
- Clinician to import image of stimuli from photo album or web into BaiBoard (see user guide).
- Clinician to cue patient to identify semantic features or phonological components.
- Clinician to hand write or type around the picture to map semantic features or phonological components, these will immediately appear on the patient’s board.
- Clinician to provide cueing via main webcam and microphone/speaker.

2. Projected handwritten document

Equipment:
- Document camera
- Paper & pen
- Multiple webcam operating program (E.g. ManyCam)

Instructions:
- Place paper with image of stimuli under document camera.
- Use ManyCam to switch to document camera to show stimuli and adjust zoom.
- Clinician to cue patient to identify semantic features or phonological components.
- Clinician to hand write around the picture to map semantic features or phonological components.
- Clinician to provide cueing via main microphone/speaker.

2f Auditory and Picture/Object Stimuli with Gestural Response
- E.g. Western Aphasia Battery – Revised (WAB-R) Auditory Word Recognition Subtest,
  Comprehensive Aphasia Test (CAT) Comprehension of Spoken Sentences Subtest

See section on Visual Stimuli with Gestural Response (2d)
2g Auditory Stimuli with Verbal Response

- E.g. Western Aphasia Battery – Revised (WAB-R), Yes/No Questions and Comprehensive Aphasia Test (CAT), Comprehension of Spoken Paragraphs

Verbal question/answer tasks can be performed using only the main webcam and microphone/speaker.

2h Auditory Stimuli with Written Response

- E.g. Western Aphasia Battery – Revised (WAB-R) Yes/No Questions

Equipment:
- Clinician iPad
- Patient iPad
- Shared whiteboard app (E.g. BaiBoard)

Instructions:
- Clinician and patient to open shared board on BaiBoard.
- Patient to write “yes” or “no” in response to questions.
- If unable, clinician to write forced choice options and patient to circle correct answer.
- Clinician to clear board prior to next question.
- Cueing via the main camera and microphone/speaker throughout the assessment.

2i Auditory Stimuli with Gestural Response

- E.g. Western Aphasia Battery – Revised (WAB-R) Yes/No Questions

Tasks involving verbal questions with gestural responses can be performed using only the main webcam and microphone/speaker, provided the patient’s movements are within the field of view of their webcam.

3. READING

3a Matching Tasks:

- E.g. Boston Diagnostic Aphasia Examination (BDAE) Matching Across Cases and Scripts, Boston Diagnostic Aphasia Examination (BDAE), Picture-Word Matching

1. Caregiver or assistant present

Equipment:
- Document camera
- Multiple webcam operating program (E.g. ManyCam)

Instructions:
- Provide task instructions via main webcam and microphone/speaker.
- Place stimuli under document camera.
- Use ManyCam to switch to document camera to show stimuli and adjust zoom.
- Instruct patient to point to correct response.
- Instruct caregiver or assistant to describe where the patient pointed (e.g. top left).
- Use ManyCam to alternate between document camera and main webcam for cueing and feedback.
2. No caregiver or assistant present

Equipment:
- Clinician iPad
- Patient iPad
- Shared whiteboard app *(E.g. BaiBoard)*

Instructions:
- Prior to appointment, clinician to take photos of stimuli using iPad camera, these will be stored in the iPad photo album.
- Provide task instructions via main webcam and microphone.
- Clinician and patient to open shared board on *BaiBoard*.
- Clinician to import image of stimuli from photo album into *BaiBoard*.
- Patient to circle/mark correct response.
- Clinician to clear board and import next image.
- Cueing can be provided via the main camera throughout the assessment.

3b Written Stimuli with Gestural Response
- *E.g. WAB-R Part II Written Word - Picture Choice Matching Subtest, Psycholinguistic Assessments of Language Processing in Aphasia (PALPA) Sentence-Picture Matching: Written Version Subtest*

See section on Visual Stimuli with Gestural Response (2d)

3c Written Stimuli with Verbal Response i.e. Oral reading tasks
- *E.g. Western Aphasia Battery – Revised (WAB-R) Reading Irregular Words Subtest, Psycholinguistic Assessments of Language Processing in Aphasia (PALPA) Letter Naming & Sounding Subtest, Boston Diagnostic Aphasia Examination (BDAE), Basic Oral Word Reading, Reading News Article*

1. Hard copy reading material
See section on Visual Stimuli with Verbal response (2b).

2. Electronic reading material
Electronic reading materials can be projected via *Vidyo* or *ManyCam*, see section on Visual Stimuli with Verbal Response (2b). Projected materials may include PDF, Publisher and Word documents or websites. Make sure to take note of font type, size and paragraph spacing. News articles are best read when cut and pasted into a zoomed in word document with these variables manipulated.

4. WRITING

4a Tracing / Copying Tasks:

Equipment:
- Clinician iPad
- Patient iPad
- Shared whiteboard app *(E.g. BaiBoard)*

Instructions:
- Clinician and patient to open shared board on *BaiBoard*.
- Clinician to write stimuli on whiteboard (select different font colour to patient).
4b Writing to Dictation:

Equipment:
- Clinician iPad
- Patient iPad
- Shared whiteboard app *(E.g. BaiBoard)*

Instructions:
- Clinician and patient to open shared board on *BaiBoard*.
- Patient to write words on whiteboard.
- Clinician to provide verbal cueing via main webcam and microphone and written cueing in different font colour on shared whiteboard.
- Clinician to clear board or provide instructions to clear board.

4c Oral Spelling:

Oral spelling tasks can be achieved using only the main webcam and microphone/speaker.

4d Functional Writing

**E.g. Completing forms**

1. Creating forms

Equipment:
- Clinician iPad
- Patient iPad
- Shared whiteboard app *(E.g. BaiBoard)*

Instructions:
- Clinician and patient to open shared board on *BaiBoard*.
- Clinician to write question/prompt using pen or keyboard functions and leave space for patient response *(e.g. Name...)*
- Patient to write response on whiteboard.
- Clinician to provide verbal cueing via main webcam and microphone and written cueing in different font colour on shared whiteboard.

2. Importing forms

Equipment:
- Clinician iPad
- Patient iPad
- Shared whiteboard app *(E.g. BaiBoard)*

Instructions:
- Prior to appointment, clinician to take photo/screenshot of form on iPad.
- Provide task instructions via main webcam and microphone/speaker.
- Clinician and patient to open shared board on *BaiBoard*.
- Clinician to import form from photo album into *BaiBoard*.
- Patient to write responses in appropriate spaces.
Clinician to provide verbal cueing via main webcam and microphone and written cueing in different font colour on shared whiteboard.

4e Visual Stimuli with Written Response

- *E.g. Written picture naming*

1. Holding up pictures / objects

   **Equipment:**
   - Clinician iPad
   - Patient iPad
   - Shared whiteboard app *(e.g. BaiBoard)*

   **Instructions:**
   - Clinician to steadily hold object or image in front of the main webcam, using the small self-view image to aid positioning.
   - Clinician and patient to open *BaiBoard* shared board on iPads.
   - Patient to write name on whiteboard.
   - Clinician to provide verbal cueing via main webcam and microphone and written cueing in different font colour on shared whiteboard.

2. Projecting pictures via document camera

   **Equipment:**
   - Clinician iPad
   - Patient iPad
   - Shared whiteboard app *(e.g. BaiBoard)*
   - Document camera
   - Multiple webcam operating program *(E.g. ManyCam)*

   **Instructions:**
   - Place picture under document camera.
   - Use *ManyCam* to switch to image from document camera.
   - Clinician and patient to open shared board on *BaiBoard*
   - Patient to write name of picture on whiteboard.
   - Clinician to provide verbal cueing via main webcam and microphone and written cueing in different font colour on shared whiteboard.

4f Extended Writing Tasks

- *E.g. Writing cards & letters, narrative writing*

1. Shared whiteboard

   **Equipment:**
   - Clinician iPad
   - Patient iPad
   - Shared whiteboard app *(e.g. BaiBoard)*

   **Instructions:**
See instructions for writing to dictation (4b). If the patient runs out of room on a page, they can flip to and from a second, third, etc. page by pressing the arrows on the right and left of the board (see user guide).

2. Email
Extended writing tasks can be more successful with the use of word processing documents and email. Depending on system configuration, this may rely on a patient having a personal computer and email. Patients can write passages and then send these via email to clinicians. These can then be independently reviewed by the clinician, or jointly reviewed by pasting the text into a word document which is projected to the patient, see section on Electronic Reading Material (3c).

5. SPEECH

5a Verbal Stimuli with Verbal Response i.e. Repetition
- E.g. Apraxia Battery for Adults (ABA-2)
Repetition tasks can be performed using only the main webcam and microphone/speaker.

5b Written Stimuli with Verbal Response i.e. Reading Aloud
- E.g. The Grandfather Passage, Assessment of Intelligibility of Dysarthric Speech (AIDS)
Speech tasks requiring reading aloud can be achieved with printed materials shown via the document camera or electronic materials projected from a second computer screen.
See section on Visual Stimuli with Verbal response (2b)

5c Assessment of Oral Motor, Posture, Respiration, Phonation, Resonance, Articulation, Prosody Conversational Intelligibility, Alternating Motion Rates (AMR), Sequential Motion Rates (SMR)
The above tasks can be achieved with only the main webcam and microphone/speaker.
Resonance may be more challenging to assess via videoconference than in a face-to-face environment. The patient may need to be directed to change their positioning in relation to the camera in order to do tasks requiring close up view of the face, versus view of the torso.

6. SWALLOWING

6a Cranial Nerve Examination / Oral Motor Examination
Can be achieved using the main webcam and microphone/speaker. A trained assistant may be required to shine a torch into the oral cavity to visualise structures, to assess gag reflex and to palpate structures, for example to assess jaw strength. It is important to be conscious of lighting and positioning and the patient may need to be directed to change position to aid judgements of symmetry.

6b Clinical Swallowing Assessment
Can be achieved using the main webcam and microphone/speaker. It is recommended that an assistant trained to support swallowing assessments and trained in basic life support/choking management is present at the patient’s side in case of an aspiration/choking incident and to ensure the patient is following instructions. It is recommended that fluids are presented in clear glass/plastic cups, with food dye added to water, so it can be seen by the clinician. Surgical tape can also be stuck by the assistant to the patient’s hyoid region to help the clinician visualise laryngeal elevation.
6c Swallow Therapy activities
Can be achieved using the main webcam and microphone/speaker. A home visit may be required in advance to trial optimal positioning for supine activities (e.g. Shaker Head Lifts). During therapy exercises, the patient should be instructed to place the iPad in pre-determined places and perform exercises. The volume on the patient’s iPad should be turned up sufficiently for verbal cueing.

7. COGNITIVE COMMUNICATION

7a Verbal Stimuli with Verbal Response
•  
  *E.g. Mental Arithmetic, idea generation tasks, abstract thought tasks, recall tasks*
  Can be performed using only a basic set up.

7b Verbal Stimuli with Written Response
•  
  *E.g. Written Sequencing*
  See section 4 for instructions on use of BaiBoard for writing tasks.

7c Visual Stimuli with Gestural Response
•  
  *E.g. Picture sequencing, word Search*
  See section 4d on importing images/forms into BaiBoard.

7d Visual Stimuli with Verbal Response
•  
  *E.g. Picture description using what’s wrong cards, interpreting bills*
  See section 2b on use of document camera and projection of second screen to show visual stimuli.

7e Visual Stimuli with Written Response
•  
  *E.g. Written numerical processing, symbol trails, categorisation (list re-writing)*
  See section 4 for use of BaiBoard in writing tasks.

8. VOICE

8a Perceptual Assessment
Perceptual voice assessment can be conducted with the use of the main webcam and microphone/speaker. At this stage, in order to do objective assessment of voice, for example fundamental frequency and volume, the patient will need to have equipment in their home, operated by themselves or an assistant, with values verbally relayed to the clinician. This may be via a designated tool such as a sound level meter, or via an app loaded onto a second iPad in the patient’s home such as Voice Analyst.

8b Voice Therapy Exercises
Most voice therapy exercises can be conducted with only the main webcam and microphone/speaker. At times visual stimuli are required for education (refer to section 1b) and reading aloud stimuli (refer to section 2b).
Loud Voice Therapy

A range of apps can be loaded onto the patient’s iPad to assist with loud voice therapy homework. If these are on a second iPad, they can also be used concurrently with a videoconferencing session. Apps such as Voice Analyst provide feedback about pitch and volume. The patient can use the stopwatch tool to track maximum phonation time.

9. BIOFEEDBACK

Videos of patient performance can be recorded and played back within a video conference for biofeedback purposes. Videos can be recorded with the use of a desktop screen recorder (e.g. Bandicam). Videos can be played to patients through a multiple webcam operating program (E.g. ManyCam). See Bandicam and ManyCam user guides for instructions.

Note, Bandicam will also allow clinicians to save recordings of patients for analysis post session, comparison on admission versus discharge and for teaching purposes (with consent).
TELE-REHABILITATION USER GUIDES

Introduction to user guides

These user guides were developed during our telehealth in the home trial and grew from and supported tele-rehabilitation service delivery, both at the clinician level and the ICT support person levels.

Inevitably, over time our applications, techniques and solutions will be superseded as technology and tele-rehabilitation continue to develop. Until then, we hope that you find them useful.

The user guides for clinicians are listed below

1. Clinician User Guide to T-Rex
3. Clinician User Guide to Baiboard
5. Clinician User Guide to ManyCam
6. Clinician User Guide to Vidyo
8. Clinician User Guide to iPad

The user guides for patients are listed below

1. Patient User Guide to T-Rex
3. Clinician User Guide to iPad

The user guides for ICT support persons are listed below

1. Vidyo user guide
2. Vidyo troubleshooting guide
3. TReX installation user guide
4. Telehealth room setting user guide
5. Meraki Mobile device Manager (MDM) user guide
6. Asset management database user guide
Clinician User Guide to T-Rex

Opening website with internet explorer 8 (more functionality with internet explorer 10 or Google chrome)

- T-Rex can be found at [http://t-rex.net.au](http://t-rex.net.au)
- Click the Start Button to go to the log in page

- Input your Username and Password (which will be sent to your email by the system manager – contact Claire Morris if you want access to site) and tick both the “I do agree to Terms and Conditions” and the “Remember Me” boxes
• The next screen is called Exercise Plans
• To view available videos, click exercise gallery
• Find patient and click ‘Edit’
• Next screen is called Edit Exercise plan
• If blank exercise is not visible, click on number to left of exercise box to expand
To Add New Exercises to plan (see below)
1. click plus sign to the right of the screen
2. type the name into the search box
3. click on the plus sign on the exercise description or double click the picture
4. click on Edit details – this will auto-populate the Exercise Label
5. click on Edit details again to add frequency / sets and edit the instructions (unnecessary step if opened app in IE10 or Google chrome)
6. add another exercise box by clicking on the plus sign to the right of the screen and repeat the process
7. when completed scroll to top of page and click on Save Exercise Plan
Then click update – this will allow the patient to see the exercise plan on their ipad

- To view what the patient will see on their i-pad, click view exercise plan
Fitbit is an activity monitoring device similar to a pedometer useful for activity monitoring, motivation, goal setting. It is available from Harvey Norman or similar retailers. It can be used independently of the App. It is recommended that the Fitbit – Zip is worn at the waist. However, for slow walkers we recommend attaching Fitbit - Zip to shoe laces or sock.

Instructions:

- Tapping the screen with your fingernail will cycle through different views. Figures refresh each day.

  
  Number of steps  Distance  Calories Burned  Time  Happy Face

- Downloading App – the app can be downloaded from app store – see Setting up iPad for patient User Guide
- First screen seen is called the ‘dashboard’. When first opened, user is prompted to tap FitBit- Zip to wake it up and synch it with the app.
- To view a different day, touch backwards or forwards arrow (1)
- To view graphs of steps for one day, touch screen over steps (2)
- To view graph of steps over week, month, 3 months, year, touch screen over graph (3)
- To set goal, touch account (4), then touch number of steps (5) and alter using keyboard
Baiboard allows the patient to read and write in real time during therapy, view and interact with imported forms and pictures, complete written assessments such as clock face, cancellation or trail making test and can act as an aid for assisted communication in patients with aphasia.

**Logging In for Clinician**

- Touch icon
- Opens to home screen – multiple boards

- For first session, Click ‘join meet’ (1)
- Enter meeting number and password (established during set up phase), press join (2)

- Meeting for particular patient will appear in My Meets on home screen (3)
- For subsequent sessions, tap on the meet and enter password, join (4)
- Opens to blank board

Logging in for Patient

- Baiboard app installed on patient’s iPad so that password is not required
- Click on icon, press join (password already entered)
- Opens to blank board

Free writing

- Instruct patient not to rest hand on board but use tip of finger or stylus
- Select pen in top task bar (5)

- Change colour and width of drawn line by tapping on colour splodge or horizontal line (6)
- Free writing or drawing will appear on patient’s and clinician’s iPad at same time (7)
- To delete (done by either patient or clinician)
  - 1. Clear whole board – tap rubbish bin, clear all pages or current page (8)
  - 2. Clear parts of writing or picture – tap eraser, tap line, word or letter (9)
- Can select a number of new pages depending on length of narrative or to alternate between tasks (10)
Typing

- Select Tt icon (11)
- Tap on screen to insert text box
- Keyboard will appear to enable typing of message
- Can adjust font, text size at top of keyboard (12)
- To finish, press ‘done’ or tap main screen
- To move text box, tap and drag
- To modify typing tap on text, brings up 3 options – delete, duplicate, text

Importing document / pictures

- Select mountains icon (13)
- Import image, PDF or map

- Press import image
- Photo album – camera roll, pictures stored on iPad
- Search web – enter search term, press on selected picture
- Camera - take a picture at that moment to use
- Picture appears on board, can adjust sizing and position (14)

- Tap on main screen to enable patient to see picture
- Written documents or forms need to be stored in photo album or accessible on web via an image search

For general information visit: http://www.baiboard.com/
Video paired with audio of a patient can be recorded and saved from within a video conference. This can enable:

- Patient performance to be analysed and reviewed by the clinician offline
- Videos to be played back to patients for biofeedback purposes
- Videos to captured for use in teaching (with consent)

**Equipment**

- Main camera and microphone/speaker
- Desktop screen recorder (E.g. Bandicam)

2 screens are helpful to allow enough room for view of patient but it can be used on one screen.

Patient does not need to have Bandicam installed on their iPad.

See below for tutorial: [http://www.youtube.com/watch?feature=player_embedded&v=6OFcYgoelr4](http://www.youtube.com/watch?feature=player_embedded&v=6OFcYgoelr4)

**Instructions**

- Seek consent prior to recording and saving video files
- Interact with the patient via the main camera
- Open Bandicam by clicking on icon
- Open recording window (1)

- Position the recording window by dragging over the image of the patient on the video conference screen
• Use the main Bandicam tool bar usually found on the second desktop or the record button in the top corner of the recording window to press record, pause and stop (2)
• The video file will be saved to the desktop immediately on pressing stop

To replay video and audio recordings to patient – see ManyCam user guide
ManyCam allows you to use your webcam, document camera, Baiboard and Bandicam within the one videoconference.

**Main screen**

- Video tab - large image is what is being transmitted to patient (1)
- Small boxes to right can be used to add extra camera views e.g. document camera or Bandicam video (2)

- Green live tab indicates which camera view the patient sees (3)
- To switch camera views click on alternate picture, transmit or cut will appear
Click on either to switch (4)

Select which camera to zoom by clicking on trans (5)
Select image tab (6)
Zoom function appears bottom left (7)

Switching to document camera
- IT can set up view from document camera to appear in one of the six boxes at right of main screen
- To switch to document camera view, follow steps above (4)

Replaying Videos recorded using Bandicam
- Click on one of blank squares
- List appears with options for importing camera

- Select conference cam (8)
- Click on playlist tab (9)
- Space appears in which to add video (10)
- Drag video file from desk top to space
- Click on it to play, above are options to pause, rewind, stop (11)
- Delete video after use for confidentiality by hovering over selected video and clicking on cross
- Select main web cam, click transmit to return to main view
Projecting desktop documents

- Click on top right hand corner of blank square
- A dropdown box will appear. Select desktop (12)
- A dropdown box will appear. Select display 1 or display 2 depending on your system configuration (13)
- Select show cursor (14)
- Entire desktop will be visible to patient
- Open document/website/picture and zoom in appropriately
- Confirm patient view by looking at self-view, bottom right hand corner
- Click transmit to project to patient
- Reduce ManyCam view so not obscuring document

For general information refer to the ManyCam User Guide and http://www.manycam.com/help
Clinician User Guide For Vidyo

Vidyo is the videoconferencing platform installed to allow clinicians and patients to talk to and see each other during the therapy session.

Instructions:

- Click on video icon to open and click log in (1)
- Type in call name (2) – this should produce a drop down list if call has been previously made (3)
- Icon next to name should be green if patient has opened icon on iPad (4)
- Patient may need reminder phone call to open icon on iPad
Click on number and press connect directly (5)
Patient needs to accept call on iPad (6)

Clinician should see picture of patient in main screen and themselves in bottom right hand corner.
Vidyo Tool Bar Explanation

2. Show group chat. Chat bar appears on right of clinician’s screen.
3. Change layout. Clinician screen will split to show clinician, patient and document either: 1 large view with 2 small views on side or three similar size pictures.
4. Expand/reduce window size
5. Project second screen or document
6. Toggle conference shares (on clicking it says “there are no shares in the conference”)
8. Camera → red with strike through, image is no longer projected to patient
9. Microphone → red and strike through, muted
10. Speaker (as above)
11. Settings
12. Duration of video conference, can switch to current time
13. Hang up call
The document camera allows the clinician to show pictures or text to the patient during a therapy session.

- Plug in using USB
- Position documents directly underneath
- May need to lift base up for larger objects

To zoom in on picture or switch between shots – see ManyCam user guide
Clinician User Guide to iPad Use

1. Power button
2. Volume button
3. Mute button
4. Home button

To navigate the iPad, tap or swipe with your finger tip on the screen
To turn iPad off, hold the power button until you see red ‘slide to power off’

Slide your fingertip across the switch
To turn the iPad on, press the power button until you see black ‘slide to unlock’

Sometimes the iPad screen is black with the iPad in sleep mode
To wake the iPad up, press the home button, and slide to unlock

To charge the iPad, either use the stand or connect directly to the iPad

To open an app, tap the icon quickly with your fingertip
If you press the icon for too long it will start to shake. You will also see a black cross on the icon
To stop the shaking, press the Home Button
To exit an app, press the home button on the front of the iPad
To download an app, locate the App store app on the iPad (5). Enter the app name in the search field, click on the cloud to download and then sign in using the assigned password (6). The app will gradually download to the home page.

To change camera view for videoconferencing, use the Vidyo app.

Open Vidyo app. Tap on My Rooms (7), own room number (8) and then join room (9). With the iPad in landscape orientation, tap on picture to show toolbar, then tap on the camera (10). Three options are available – front or rear camera or turning off the camera (11). Use this view to assess positioning of camera and patient for therapy session.
The FitBit

What is the FitBit?

- The FitBit is a **pedometer**
- It keeps track of:
  - The **number of steps** you walk
  - The **distance** you walk
  - The number of **calories** you burn
  - The **time**

How to **wear** the FitBit

- Wear the FitBit **close to your body**
- The best places are on your **Pants** or **Bra**

What do I do with my activity data?

- You don’t need to do anything
- The Fit Bit will send the data to your therapists
If you want to check activity on the FitBit

- Tap the screen with your fingernail to change the display

- There are 5 different screen displays:
  
  - How many **steps** you walk in a **day**
  
  - The **distance** you walk in a **day**
  
  - How many **calories** you burn in a **day**
  
  - The **time**
  
  - A **face**: The face will be happy when you are active
iPad FitBit App

Checking your step count on the iPad

• Tap the FitBit icon on the home screen

• Your step count for today will be displayed on the screen

Checking your step count from yesterday

• Press the arrows to change the day

Yesterday

How to exit FitBit

• Press the home button on the front of the iPad
Your therapist will provide you with a set of exercises to help with your rehabilitation. These exercises will be sent via the internet to your iPad.

You can access these using the T-Rex app on your iPad.

Tap on the icon to open up your exercises.

Each exercise has written instructions including number and frequency. There is a video demonstrating the exercise attached to each. You can watch this video by tapping the white triangle. You can scroll down the page to see more exercises.
Tele-Rehab in the Home

Introduction to the iPad

**Power Button**
Turns the iPad on and off

**Volume Button**
Turns the volume up and down

**Home Button**
Wakes the iPad up
Returns the iPad to the home page

**Navigation**
Tap buttons on the screen with your fingertip
How to **open** the iPad

- Sometimes the **iPad is on** but the **screen is black**
- The iPad is in **sleep mode**
- Press the **home button** to **wake up** the iPad

- You will see a **black switch** on the screen

- **Slide** your fingertip across the switch

- You will see the **Home Page**
Turning the iPad off

- Press the power button for **6 seconds**
- You will see a **red switch**
- Slide your fingertip across the switch
- The iPad will turn **off**

Turning the iPad on

- Press the power button for **2 seconds**
- The iPad will turn **on**
Charging the iPad in the stand

- The iPad will charge in the stand when it is plugged into the wall

Recharging the iPad without the stand

- 2 items needed to recharge the iPad
  - The power adapter
  - The Power Cable
Applications

What are Apps?

- Apps are programs on the iPad
- There is an App called “Vidyo” for video calls
- There is an App called “FitBit” for recording your exercise
- There is an app called “Rehab Tools” for answering questionnaires

Where are the Apps?

- Your Apps are at the bottom of the Home Page
How to open an App

- **Tap the icon** quickly with your fingertip

- If you press the icon for too long it will start to shake
  
  You will also see a black cross on the icon

- To stop the shaking **press the Home Button**

---

How to exit an App

- **Press the home button** on the front of the iPad
- You will return to the home page
Video Calls

Preparing for a video call

- Turn the iPad on (page 2)
- Open the iPad (Page 3)
- Tap on the Vidyo app

- Wait for the call

Answering a video call

- You will hear a ringing sound
- You will see two buttons
- Tap the Answer button with your finger tip

Ending a video call

- You don’t need to do hang up
- The clinician will end the call
- Press the Home Button to close Vidyo
Information and Communications Technology Resources
Installing VidyoDesktop

1. Navigate to the Vidyo portal in a web browser
   Example: http://fthp.vidyo.flinders.edu.au

2. Click Download VidyoDesktop and run the installation file

3. Follow the on-screen instructions
4. Login with your username and password

VidyoDesktop: Pre-Call Interface
1) Search Contacts: Enter a name in this text box to search for a contact. *As soon as you begin typing, search results appear.*

2) Contact Status: The status and name of the contact or room. *Click to view information about the contact or room, place a direct call to the contact, join the contact’s room, or join a public room.*

3) Room Information: Click to invite guests to a Vidyo meeting. *When you do so, the meeting invitation automatically opens using your default desktop mail application, and pre-fills with your personal Vidyo room information. You can enter the email addresses of the guests you want to invite to the meeting or edit the email content before sending.*

4) Settings: Click to open the Configuration and Status screen.

**Participant Status Icons:**

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The contact is online and available to receive a direct call or to join a room.</td>
</tr>
<tr>
<td></td>
<td>The contact is online but is currently in a call or conference. You cannot make a direct call to this contact; however, you can join the contact’s room.</td>
</tr>
<tr>
<td></td>
<td>The contact is offline (not logged into the VidyoPortal). You cannot make a direct call to this contact; however, you can join the contact’s room.</td>
</tr>
</tbody>
</table>

**Room Status Icons:**

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The room is available and empty, so you can enter the room.</td>
</tr>
<tr>
<td></td>
<td>The room is available and PIN-protected. If you attempt to join the room, you will be asked to enter a PIN.</td>
</tr>
<tr>
<td></td>
<td>The room is occupied but available to enter.</td>
</tr>
<tr>
<td></td>
<td>The room is locked, so you cannot enter it.</td>
</tr>
<tr>
<td></td>
<td>The room is full, so you cannot enter it.</td>
</tr>
</tbody>
</table>

**VidyoDesktop: Taskbar In-Call**

*The VidyoTask bar is accessible by moving your mouse over the VidyoDesktop screen.*
1) Click 🔄 to view a list of the conference participants and chat with them, invite participants to the conference (via the contact list or by email), and launch the Control Meeting panel which provides access to the conference moderation options.

2) Click 📩 to chat with all participants as part of the conference group chat.

3) Click 📽️ to select how to view the participants’ video windows during the conference, and control the maximum number of windows.

4) Click 📱 to select which application or screen you wish to share in the conference.

5) Click 🎥 to toggle among the applications or screens that are being shared during the conference.

6) Click 🧑‍🤝‍🧑 to toggle your self-view preference.

7) Click 📹 to show or hide the video feed from your camera.

8) Click 🎤 to mute, unmute, and control your microphone volume.

9) Click 🎧 to mute, unmute, and control your speakerphone volume.

10) Click 🛠️ to open the Configuration and Status screen.

For more information, see “Using the Configuration and Status Screen” on page 12.

11) Click ⏰ to toggle between the conference time and a clock.

12) Click 🕒 to end the conference.

Direct Call (Point to Point)

Open Vidyo by double clicking on the Vidyo 📱 icon in the system tray (bottom right of screen near the date and time).

1) Enter the contacts user ID into the Search field and click on the result

2) Check the status of the user

3) Click Connect with contact directly

4) Click 🕒 to end the conference

This will disconnect the call for all participants
Direct Call to External Participant (Point to Point)

*Note:* Vidyo uses a VidyoGateway to connect to standards based Video Conferencing unit like Cisco and Polycom. The gateway uses a prefix to the dial string to identify an external connection, much like the PABX phone systems. Most systems will connect using the 04 prefix, however please contact support should this not work.

Open Vidyo by double clicking on the Vidyo icon in the system tray (bottom right of screen near the date and time)

1) Enter the contacts dial string into the Search field and click on the result
2) Click Call a non-Vidyo system
3) Click to end the conference

**Case Conference (Multi-Site)**

Open Vidyo by double clicking on the Vidyo icon in the system tray (bottom right of screen near the date and time)

1) Click on your name (top of contacts list)
2) Click Connect to your Room
3) Bring the Taskbar up (page 3)
4) Click on the icon to bring up with participants list
5) Click on the Control Meeting button located towards the bottom right of the window
6) Your default internet browser will open to a meeting control page
Meeting controls are performed through the browser as the VidyoDesktop controls don’t provide a way to disconnect participants of the conference; this is particularly useful for assisting patients to end their conference.

7) Click the Add Participant button, located at the top right of the browser.
8) The Add Participants window will pop up

9) Type the contact into the Search field
10) Click on the participant you wish to call
Tip: you can create a list of participants to invite by repeating steps 9-10, rather than invite each participant individually.
11) Click Invite
12) To invite a non-vidyo user into a case conference, repeat steps 9-10, using the non-vidyo dialling string (example: 0454157@vc.sahealth.sa.gov.au)

Controlling a case conference (Multi-Site)

1) List of participants in the case conference
2) Click to add a participant to your room.
3) Click to invite a participant to your room via email.
4) Click to toggle between locking and unlocking your room.
Once locked, no one will be able to connect to your room, even if invited
5) Allows you to search for participants connected to the case conference
6) Click to disable video on all participants’ cameras without allowing them to re-enable it.
7) Click 💤 to disable video on all participants’ cameras while allowing them to re-enable it.

8) Click 🔈 to mute audio on all participants’ microphones without allowing them to re-enable it.

9) Click 🔊 to mute audio on all participants’ microphones while allowing them to re-enable it.

10) Click 🛑 to disconnect all participants from your meeting room.

11) Click 📷 to disable video on the selected participant’s camera without allowing that participant to re-enable it.

12) Click 🎤 to mute audio on the selected participant’s microphone without allowing that participant to re-enable it.

13) Click 🗓️ to disconnect the selected participant from your meeting room.
T-Rex – Installation onto iPad

Overview:
To make access to the T-Rex website as easy as possible for the patients, we use the Web Clip feature within Meraki to assist in setup and access to the T-Rex exercise list.
For T-Rex to appear as an application we have used the Full Screen option of the web clip which hides the address bar at the top of Safari.
To enable the patient to automatically login, we are required to include another web clip to the login page – this is because Safari uses a separate engine/database for the full screen mode, meaning saved settings in the standard mode aren’t available in full screen mode.

This guide will include:
- Creating a profile and applying to device
- Adding T-Rex to the Meraki Web Clips
- Adding an exercise to T-Rex
- Logging into T-Rex on the device

Creating a profile and applying to device
1. Log into Meraki
2. Click the MDM menu heading
3. Click on Profiles
4. Click on “Add new”, located at the top right of the screen.
5. Click on “New mobile profile”
6. Complete the Mobile Profile information
   a. Configuration: Choose “Use the Meraki Dashboard…”
   b. Name: RITHOM_FTHPxxxx (where xxxx is the asset number)
   c. Description: Can be left blank
   d. Removal Policy: Change to require password (this can be anything)
   e. Scope: Change to “with ANY of the following tags”
      i. Enter the asset number and click “Add Option”
7. Click Save
8. Click on “Monitor” from the left hand menu of the Meraki dashboard
9. Click on “Clients”
10. Check the box of the device you wish to apply a tag to
11. Click the “Tag” button, towards the top left of screen
12. Type fthpxxxx (where xxxx is the asset number)
13. Add

Adding T-Rex to the Meraki Web Clips:
1. Log into the Meraki dashboard
2. Click on MDM from the left hand dashboard menu
3. Choose the profile from the dropdown box (rihtom_fthpxxxx)
4. Click on Settings
5. Click on Web Clips
6. Click “Create a Web Clip”
7. Label: Login (We have left T-Rex off to avoid confusion)
9. Check Full Screen
10. Click “Save Changes”
11. Click “Add a new Web Clip”
12. Label: T-Rex
13. URL: http://t-rex.net.au/exercise-plan/fthpxxxx (change xxxx to device asset number)
14. Check Full Screen
15. Click “Save Changes”

Adding an exercise to T-Rex
If the URL http://t-rex.net.au/exercise-plan/fthpxxxx is not found, you will need to create a blank exercise plan for the device.
1. Log into T-Rex http://t-rex.net.au
2. Click the Start Button to go to the log in page
3. Input your Username and Password and tick both the “I do agree to Terms and Conditions” and the “Remember Me” boxes
4. After you login, the first screen you are presented with is the Exercise Plans page
5. Click “Add New” towards the top of screen
6. Enter the following into the fields
   i. Client First Name: asset number
   ii. Client Last Name: asset number
   iii. Client Username: asset number
   iv. Client Password: Telehealth01
   v. Exercise Label: asset number
   vi. Internal-Use Label: asset number
7. Click “Save Exercise Plan” and Click “Publish”
8. Repeat the above step (Click Save and Update)

Logging into T-Rex on the device
When the device checks into Meraki it should pick up the 2 Web Clips, which will appear as 2 white icons on the iPad labelled, Login and T-Rex.
1. Tap on the “Login” icon
2. Enter the username and password (asset and Telehealth01)
3. Check both the boxes
4. Save the username and password for auto-fill
5. Press the home button on the iPad
6. Tap on the “T-rex” icon to test
   a. You will notice the icons change to the T-Rex dino
Telehealth Room Setup

Purpose:
This document has been designed to provide an overview and step by step setup procedure of the standard Telehealth consultation room that was utilised in the Flinders Telehealth in the Home Project.

Overview:

![Diagram showing the setup of the Telehealth room]

Equipment:
2 Monitors/Screens
- One for main VidyoConferencing window
- One to control the Vidyo Conference and share content to far end
HD WebCam - Logitech BCC950, C920 or similar
Computer
Keyboard and Mouse

Software:
Windows OS – Required for software compatibility
VidyoDesktop – Video Conferencing software
ManyCam – Virtual Camera
BandiCam – Recording of video
Office 2010
Setup 
Computer
We are using a Windows computer running the Windows 7 Operating System, the computer uses a local login and no patient related data is stored on the video conferencing computer.

Dual monitors are connected to the computer, with one acting as the main Video Conferencing display and the other being used to control the video conference and share content to the far end.

2 USB cameras are utilised; 1x WebCam for portrait and 1x Document camera for showing material to far end.

Software

ManyCam – Virtual Camera
This software allows for the therapists to easily switch between different camera sources, play back video and sound to the remote end.

1. Install the ManyCam software (http://manycam.com/)
*On the 2nd and 3rd screens, ensure to click the Decline button
2. Once installed, open ManyCams
3. Click the ManyCam menu (Top left hand of window) and select Activate ManyCam Pro

4. Input the activation code and click activate
   (Licencing information can be found \sharefiles\share\RESTRICTED - Telehealth Project\07-Support\Documents\ManyCam)

5. VidyoDesktop:
   1. Install VidyoDesktop, instructions and install file can be found at http://fthp.vidyo.flinders.edu.au
2. Login to VidyoDesktop (details will be specific to the user or consultation room – See Vidyo user management guide)
   - Portal = fthp.vidyo.flinders.edu.au
   - Username = VCCS1 (example)
   - Password = Telehealth01 (example)

3. Select peripherals through the VidyoDesktop settings
   a. Click on the settings icon to the top right of the VidyoDesktops contacts window
   b. Select Devices from the left hand menu ensure the following devices are highlighted:
      i. Microphone (ManyCam Virtual Microphone)
      ii. Main speakers
      iii. ManyCan Virtual Webcam

BandiCam – Recording of video
BandiCam is a screen capture program that provides the therapist with the ability to record a patient’s Telehealth session and replay it to provide visual feedback on their rehabilitation program.
1. Install the BandiCam software - [http://www.bandicam.com/downloads/](http://www.bandicam.com/downloads/)
2. Accept all defaults and run BandiCam
3. Register BandiCam by clicking on the ‘key’ icon on the right hand side of the window
   (Licencing information can be found \sharefiles\share\RESTRICTED - Telehealth Project\07-Support\Documents\BandiCam)
4. Click General and change the output folder to the desktop
5. Click Start Bandicam minimized to tray
6. Click Start Bandicam on Windows startup
7. Click Video
8. Click Settings
9. Check Record Sound
10. Choose Win 7 Sound (WASAPI) as the primary sound device
11. Choose the microphone as the secondary sound device
<table>
<thead>
<tr>
<th>Issue</th>
<th>Troubleshooting</th>
<th>Actions</th>
</tr>
</thead>
</table>
| **No Video from patient**  
• Black screen | Tele-Health Room  
• Check that both monitors have power going to them  
• Check that the power is turned on  
Patient:  
• Check the patient has Vidyo ‘maximised’  
• Check the patient hasn’t disabled Video in the settings of Vidyo | Tele-Health Room  
• Reboot the computer  
Patient:  
• Call patient on phone and end Vidyo call  
Ask patient to go to Vidyo settings  
Ask patient to confirm Video is turned on  
• Ask patient to reboot iPad |
| **No Audio from patient** | Tele-Health Room  
• Check that computer volume isn’t muted  
• Check that the correct audio device is selected in Vidyo settings under ‘Devices’  
• Check that the Volume level through Vidyo is at an appropriate level  
Patient:  
• Check that patient hasn’t disabled Microphone in the settings of Vidyo | Tele-Health Room  
• Reboot computer  
Patient:  
• Call patient on phone and end Vidyo call  
Ask patient to go to Vidyo settings  
Ask patient to confirm Microphone is turned on  
• Ask patient to reboot iPad |
| **Unable to call Patient** | Tele-Health Room  
• Check that the user is online (green)  
• Check that you have the correct details for the far end  
Patient:  
• Ensure patient has iPad turned on and is logged into Vidyo | Patient:  
• Ask patient to reboot iPad and log back into Vidyo |
| **Patient can’t see me** |  
• Check your camera is plugged in  
• Check you haven’t ‘muted’ your Camera  
• Check that ManyCam is open and the correct source is the selected live stream |  
• Confirm that you can view yourself in self-view.  
• Confirm that the correct ManyCam is selected under the Vidyo Settings and Devices options.  
Engage your IT support for Vidyo |
| **Patient can’t hear me** |  
• Check your microphone is plugged in  
• Check you haven’t muted your microphone  
• Check that ManyCam is open and a microphone appears under the audio tab |  
• Confirm that your microphone isn’t muted.  
• Confirm that the correct camera is selected under the Vidyo Settings and Devices options.  
Engage your IT support for Vidyo |
Meraki – Mobile Device Manager

Overview:
Meraki is a cloud-based Mobile Device Manager which allows you to remotely manage the settings, profiles, and applications of a mobile device fleet. There are different offerings for support, although the project has opted for the free/basic service offering which only provides support via the only knowledge database.

Account Registration:

1. Create a free Meraki account, click on the following link and click “Create an account”: https://account.meraki.com/secure/login/dashboard_login
2. Complete the details, click “Create account”. You will now be sent a confirmation email with an activate link – you will need to click this link to complete registration.
3. Once you have confirmed your account, login to the Meraki Dashboard using the following link: https://n85.meraki.com/login/dashboard_login

Configuring your MDM environment:
When logging in for the first time you will be prompted to create a new network.

1. Click “create a new network”
2. Type in a meaningful name into the “Name” text field.
3. Select MDM from the options
4. Click “Create Network”

5. Click on “Organizations” on the left hand menu, and then click “MDM”
6. Click on Meraki_Apple_CSR.csr and save the file to your computer
8. Login with your/organisation’s Apple ID
9. Click “Create a Certificate”
10. Tick the “I have read and agree to these terms and conditions.” Box and click “Accept”
11. Click “Browse”
12. Located the Meraki_Apple_CSR.csr file from step 6 and click “Open”
13. Click “Upload”
14. Click “Download” and save the file to your computer
15. Go back to the Meraki Dashboard webpage (Organisations and MDM)
16. Enter the Apple ID you used to log into the Apple Push Certificate Portal
17. Click “Browse” and locate the “MDM_Meraki_Inc_.Certificate.pem” file and click “Open”
18. Click “Save Changes” by scrolling to the bottom of the page
19. The push certificate will need to be renewed every 365 days, if the email linked to the Apple ID isn’t monitored; it is advisable to set a reminder.

Creating Profiles
A Profile can be applied to a single or group of iPads and will allow you to configure the settings and applications a device has access to.

14. Click the MDM menu heading
15. Click on Profiles
16. Click on “Add new”, located at the top right of the screen.
17. Click on “New mobile profile”
18. Complete the Mobile Profile information
   a. Configuration: Choose “Use the Meraki Dashboard…”
   b. Name: Provide a meaningful name. Example, rithom_profile, staff_profile, patients_profile, law_students_profile, etc.
   c. Description: Can be left blank
   d. Removal Policy: Change to require password (this can be anything)
   e. Scope: Change to “with ANY of the following tags”
   i. Just type a meaningful scope name and click the “Add option” link in the popup
19. Click Save

Settings
Before applying the profile to a device, which will enforce your settings and restrictions, you’ll need to adjust the settings of the profile.

1. Click the MDM menu heading
2. Click on Settings
3. Select the profile you wish to edit from the drop down box
   a. There are a number of settings you can adjust; although for the purposes of this guide we will only look at restrictions. The settings mentioned would be
fairly common across most environments where the device is loaned out to a customer. Most are self-explanatory

4. Check the “Enforce Restrictions Box”

Device functionality

- Allow installing apps – True – this is required for application management
- Allow screen capture – False – Isn’t required
- Allow voice dialling – False – Isn’t required
- Allow automatic sync when roaming – False – Isn’t required
- Allow Siri – False – isn’t required, can be a security risk
- Allow Passbook notifications while locked – False – Isn’t required
- Allow in-app purchases – False – can be changed if utilising applications with in-app feature that require unlocking
- Force user to enter iTunes Store password for all purchases – True – if deselected, users have 15min after a password has been entered to download additional application without requiring authentication.
- Allow multiplayer gaming – False – isn’t required
- Allow adding Game Centre friends - – False – isn’t required
- Show control centre in lock Screen – False – Just adds a layer of complexity for end users
- Show notification Centre in lock screen – False – Adds a layer of complexity for end users
- Show Today view in lock screen – False – Adds a layer of complexity for end users
- Allow documents from managed apps in unmanaged apps – False – isn’t required
- Allow documents from unmanaged apps in managed apps – False – isn’t required

Applications

- Allow use of YouTube – False – can impact on data usage costs
- Allow use of iTunes store – False – can impact on data usage costs
- Allow use of Safari – False – Can impact on data usage costs

iCloud

- Allow Backup – False – isn’t required
- Allow Document Sync – False – Isn’t required
- Allow photo stream – False – Isn’t required
- Allow cloud Keychain sync – False – Isn’t required

Security and privacy

- Allow diagnostic data to be sent to Apple – False – Isn’t required
- Allow user to accept untrusted TLS certificates - False – Isn’t required
- Force encrypted backup – True
- Allow automatic updates to certificate trust settings – True – iPad will automatically update trusted certificates
- Force limited ad tracking – True

Content ratings

- Allow explicit music and podcasts - False

Ratings region

- Australia
Allowed Content ratings
   a. Movies: Don’t Allow Movies
   b. TV Shows: Don’t Allow TV Shows
   c. Apps: Allow All Apps

iOS supervised restrictions
The following are only available if you supervise your devices with Apple Configurator, this is advisable and setup procedure can be found in this in the apple configurator setup guide.
   a. Allow iMessage - False
   b. Allow App Removal - False
   c. Allow Game Centre - False
   d. Allow Bookstore - False
   e. Allow Bookstore erotica - False
   f. Allow UI configuration profile installation - False
   g. Allow modifying account settings – False
   h. Allow AirDrop – False
   i. Allow changes to cellular data usage for apps – False
   j. Allow use-generated content in Siri – False
   k. Allow modifying Find My Friends settings – False
   l. Allow host pairing – False

5. Click “Save Changes”

Applying profiles to a device
To apply a profile it a device, you just the relevant tag/s to the device.
   1. Click on “Monitor” from the left hand menu of the Meraki dashboard
   2. Click on “Clients”
   3. Check the box of the clients you wish to apply a tag to
   4. Click the “Tag” button, towards the top left of screen
   5. Type and select the wanted tags
   6. Add

The next time the device ‘checks in’, the profile/s will be applied.

Adding Free Applications to Meraki
   1. Click on “MDM” from the left hand menu of the Meraki dashboard
   2. Click on “Apps”
   3. Click on “Add new” near the top right of the dashboard
   4. Click on “iOS app”
   5. Enter the title of the application in the text field
   6. Change the Country to Australia
   7. Click search
*You may need to choose the iPhone tab if you can’t find the application in the iPad results.
   8. Click the “Add” button to the right of the application icon/image
*For paid applications, view “Adding paid Application to Meraki”
   9. Add
   10. From the “Scope” dropdown, choose “with and of the following tags”
11. Enter the TAG you wish the application to installed on, or if you are going to target individual devices, enter “App_ApplicationName” and click the “Add” button.
12. Tick Prevent backup
13. Click “Save Changes”
14. If you created a new Tag to target individual devices, apply the tag to the device as outlined in “Applying profiles to a device”

Adding Paid Applications to Meraki
3. Click on the Application you are searching for
4. Check “Redeemable codes”
5. Enter the number you wish to purchase in the “Quantity” field
6. Click “Review Order”
7. Click “Place Order”
8. Wait to receive an email from the VPP store with your licence codes
9. Open the email and the attachment
10. Copy the Codes from the excel document – this is the 12 character code

<table>
<thead>
<tr>
<th>Code</th>
<th>Code Redemption Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>KHLTT3YYH74</td>
<td><a href="https://buy.itunes.apple.com">https://buy.itunes.apple.com</a></td>
</tr>
<tr>
<td>KMWN4TAJJAJ</td>
<td><a href="https://buy.itunes.apple.com">https://buy.itunes.apple.com</a></td>
</tr>
</tbody>
</table>

11. Click on “MDM” from the left hand menu of the Meraki dashboard
12. Click on “Apps”
13. Click on “Add new” near the top right of the dashboard
14. Click on “iOS app”
15. Enter the title of the application in the text field
16. Change the Country to Australia
17. Click search
*You may need to choose the iPhone tab if you can’t find the application in the iPad results.*
18. Click the “Add” button to the right of the application icon/image
*For paid applications, view “Adding paid Application to Meraki”*
19. Add
20. From the “Scope” dropdown, choose “with and of the following tags”
21. Enter the TAG you wish the application to installed on, or if you are going to target individual devices, enter “App_ApplicationName” and click the “Add” button.
22. “Purchase method” is “VPP Codes”
23. Paste the VPP codes into the “Redemption Codes” text field

24. Tick “Remove with MDM”
25. Tick Prevent backup
26. Click “Save Changes”
27. If you created a new Tag to target individual devices, apply the tag to the device as outlined in “Applying profiles to a device”

Adding Enterprise Applications to Meraki
1. Click on “MDM” from the left hand menu of the Meraki dashboard
2. Click on “Apps”
3. Click on “Add new” near the top right of the dashboard
4. Click on “iOS enterprise app”
5. App Location is dependent on the size of the application:
   - If the application is under 64MB you will be able to upload the IPA directly to Meraki, if it is over this you will need to host the IPA and .plist file on a server – the developers of the application should be able to provide you with both the files.
6. From the “Scope” dropdown, choose “with and of the following tags”
7. Enter the TAG you wish the application to installed on, or if you are going to target individual devices, enter “App_ApplicationName” and click the “Add” button.
8. Tick “Remove with MDM”
9. Tick Prevent backup
10. Click “Save Changes”
11. If you created a new Tag to target individual devices, apply the tag to the device as outlined in “Applying profiles to a device”

Applying tags as default
You may wish to apply a Tag to every device that joins your MDM, this could be to push out a minimal security profile, application or network settings.
1. Click on “Configure” from the left hand menu of the Meraki Dashboard
2. Click on “General”
3. Scroll down to “Enrolment Settings”
4. Add the tags you require to “Default Tags”

Updating Applications
Unfortunately the only way to update a particular application on multiple devices is to reinstall it of all devices, which can result in some devices not updating if they don’t ‘check-in’ for a while, or the application can occasionally not install completely when updating.
1. Click on “MDM” from the left hand menu of the Meraki dashboard
2. Click on “Apps”
3. Click on the Application you wish to update
4. Click on “Re-push to all”

MDM Commands
Meraki provides you with some addition commands that can be accessed via the Clients details.
1. Click on “monitor” from the left hand menu of the Meraki Dashboard
2. Click on “Clients”
3. Click on one of the clients
4. About a quarter way down the page you can see the MDM commands
   - Mobile Security
     - Clear Passcode: Clears the passcode in the event a user can’t log into the iPad
ii. Lock Device: Will put the device back to the lock screen – *only effective with a passcode*

iii. Selective wipe: Will delete all application and profiles installed by Meraki, but the device will remain enrolled in Meraki

iv. Erase Device: Will erase the device back to a new state

- Data Settings – disable data roaming (doesn’t work)
- Send notification – allows you to send a message through Meraki using Apple’s notification system
- GPS Location – this requires a user open Meraki

**Additional Features**

The settings of the profile also provide you with a couple of additional features which you may find useful:

- Passcode – Used to enforce a passcode when unlocking the device, typically used for staff devices.
- WiFi – Used to push out a wireless profile to your managed devices.
- VPN – Used to push out pre-configured VPN settings to allow end users to tunnel back to a secured LAN.
- Web Clips – Used to push out a URL to a device’s home screen, can be used to provide access to Web Apps, mobileconfig files, enterprise application installs, etc.
Asset Management Database - Basics

Purpose:
This document is intended to be a resource in the use of the Telehealth database. The intended audience are those individuals that need to manage the assets and resources of the Telehealth system.

Introduction:
Filemaker Pro is a cross-platform, multi-user, rapid deployment environment, relational database. In simple terms it is quick, easy flexible and versatile.

Prerequisites:
To use the Telehealth database, you need a copy of FileMaker Pro or FileMaker Advanced v13 installed on your Mac or Windows PC.

User Access:
The Telehealth database supports multiple user accounts, including Administrator and Data Entry Only privilege sets, as well as others. Each user has their own login credentials and these should not be shared with anyone else.

Accessing the Telehealth database:
There are two scenarios for accessing the Telehealth database.

1. The Telehealth database file is stored on your local hard drive. You double-click on this file and authenticate to it, or, launch FileMaker and navigate to the file from the Open dialog box. Alternatively, launch FileMaker, then from the File Menu, open the file.

2. The Telehealth database file is served by FileMaker Server, or another user has opened the file locally and is sharing the file. Launch FileMaker, then from the File Menu, click Remote. Within the Open Remote File dialog, choose your host and the Telehealth file and click Open.
3 Authenticate when prompted and you will see the AssetV2 layout. If your layout resembles this one, you need to enlarge your window until the full layout is visible as shown on the following page.
Database Schema:
The primary table for the Telehealth database is the Asset table shown in the layout AssetV2. Each record in this table relates to one Asset.
A related table is Asset Allocation, shown in the layout AssetV2 as a portal named Allocation History. This table has entries for each time an asset has been deployed, a loan history in effect.
Another related table is Note of Asset, shown in the layout AssetV2 as simply Note. This is a log of any pertinent notes for this asset, such as when an asset has been sent in for repair, for example.
The AssetV2 layout:

1 Asset Nº: is a unique identifier. Each asset has a sticker on it that has the asset number shown (except for some very small devices that have it written on in texta or not at all).
2 Custodian: is the responsible person that currently has the asset. This field may contain the identifier for a patient, or it may contain the real name for a non-patient. Note: you cannot enter data into this field unless you are performing a Find.

3 Entity: is the entity associated with the custodian. This could be RITHOM or Palliative Care, or even ICT Stock (meaning it is in our inventory cupboard).

4 Tag: you can select multiple choices in this field. These entries are used in searches to select products that are in certain groups. For instance if you tag an asset as Not iOS, it will be excluded from searches that are not related to iPods and iPads. If it is tagged as decommissioned, it will not appear in searches for available items, etc.

5 Flag: this field is used to identify groups of assets that are of interest. Before using this field, you should Show All records, clear the current entry in this field, then from the Records Menu, select Replace Field Contents. This will clear this field for all records. The way to use this field is to use a combination of Find and/or manual selection until you have the desired Found Set that you want. You then place a value in the Flag field, such as 1, then use Replace Field Contents again to flag all entries in the found set. At any time you can perform a simple Find for 1 in the Flag field to find the same Found Set. You can also use any combination of Finds to add or remove assets from that set by setting the Flag to 1 or by clearing it.

6 Equipment: is a description of the Asset, often with some specifications to differentiate it.

7 SerialNº: is the serial number that the manufacturer has applied to the Asset.

8 Manufacturer: is the name of the manufacturer of the Asset.

9 InvoiceNº: is a two part field, the upper line is the Invoice number that the equipment was purchased under, the lower line is the Date of that Invoice.

Portal to the Asset Allocation table

Custodian: is the responsible person that currently has the asset. This field may contain the identifier for a patient, or it may contain the real name for a non-patient. To enter a new Custodian, enter them in the next available blank field in the Custodian column, then click out of the portal (say on the word Custodian) so that the entry is saved. This field has a script trigger on it that executes a script as soon as you leave the field. That script updates the previously mentioned Custodian field in the Asset table. This arrangement has some advantages. If you want to find the current custodian, search the field at the top of this layout. If you want to find any instance of a custodian, search the portal entry from the Asset Allocation table.
11 Entity: is the entity associated with the custodian. This portal entry field also has a script trigger on it that updates the Asset table with the latest custodian when you exit that field.

12 Tag: is an additional status field for the particular allocation. If the Asset is loaned to a Staff member, check the Staff box. If it is on loan to another non-patient individual or entity, check the Loan box. The buttons for finding groups of devices (and the scripts behind the buttons) take into account the Staff and Loan tags, so as not to include them in the Found set of Assets that are currently out with patients etc.

13 Del (button): deletes the portal row in which it lives.

14 Move To Stock (button): auto populates the End, Custodian and Entity fields for an Asset coming back into stock.

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<thead>
<tr>
<th>15</th>
<th>16</th>
<th>17</th>
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<th>19</th>
<th>20</th>
<th>21</th>
<th>22</th>
<th>23</th>
<th>24</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flag</td>
<td>ID Asset</td>
<td>FaceTime</td>
<td>Vidyo String</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IMEI</td>
<td>Anna Cares</td>
<td>SIM ID</td>
<td>Form Factor</td>
<td>Cell Phone Nº</td>
<td>Serv Prov</td>
<td></td>
<td></td>
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<tr>
<td>Yes</td>
<td>No</td>
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</tbody>
</table>

15 IMEI: International Mobile Station Equipment Identity. This applies only to cellular capable Assets and is usually written on the device near where the SIM socket is. It is also usually on the serial number sticker of the box. On iOS devices it is accessible via the Settings.

16 Anna Cares: if the device has the Anna Cares software installed or not (there were only 10 devices we could install on at the time of writing this).

17 SIM ID: this is written on the SIM. Needed to manage the SIMs.

18 ID Asset: is the database key for this Asset. It is used for all relationships with other tables.

19 FaceTime: is the identity used by FaceTime to call this Asset.
   Note: the Asset needs to be logged in to FaceTime using this identity to be able to receive a call.

20 Vidyo String: is the identity used by Vidyo to call this Asset.
   Note: the Asset needs to be logged in to Vidyo using this identity to be able to receive a call.

21 Form Factor: of the SIM. Standard, Micro or Nano.

22 Cell Phone Nº: of the SIM. Needed to manage the SIMs.

23 Service Provider: of the SIM/Cellular service.
24 Move To Stock (Button): deassigns the SIM from the current Asset and puts it into the SIM Stock portal as an available stock item.
25 SIM ID: of in-stock SIMs.
26 Form Factor: of in-stock SIMs.
27 Cell Phone Nº: of in-stock SIMS.
28 Service Provider: of in-stock SIMS.
29 In-stock Flag: this field needs a 1 in it for a SIM to appear in the SIM Stock portal.
30 -> Device (Button): assigns the SIM to the current Asset and removes the in-stock flag, effectively moving the SIM to the device.
31 Del: does not actually delete the SIM, rather it removes the in-stock flag without assigning it to a device, so the SIM disappears from the in-stock list and remains in the SIM table for reference only.
32 Slider: allows you to scroll the list of in-stock SIMs when there are too many to display in the portal.

![SIM Stock Portal](image)

33 Note: any text you want to record against the Asset.
34 Delete: removes the Note entry.

![Job Table](image)

35 Client: is for whom the Job was performed.
36 KeyWord: is used for grouping/finding Jobs.
37 Category: is used for grouping/finding Jobs.
38 -> (Button): this button opens a new window of the job within the Job table. Here you can edit the Job or create a new Job.
In the graphic above, the Sort buttons sort the corresponding column. A second click on the Sort button reverses the sort order.

The records (rows) each correspond to one Asset in the table. Clicking on an Asset in a record causes all of the information for that Asset to be shown in the aforementioned area above the records. This enables you to scroll through the Assets and select one.

The Sidebar consists of a column of buttons to automate regular tasks. Under Navigation:

- The Asset button does nothing as we are already in the Asset table.
- The Job button opens a new window into the Job table.
- The SIM button opens a new window into the SIM table.

Under Find iOS Devices:

- The Available button finds all of "our" iOS devices that are in stock and available, where "our" means the Asset is owned by the Telehealth Project. (Some Assets in the Telehealth database are owned by other parties. They appear in the Telehealth database as the Assets were on the same invoices that some of the Telehealth Project assets were purchased on).
- The Ours button finds all of the Telehealth Project's iOS Assets.
- The Patient & Carer button finds all iOS Assets that are currently assigned to Patients and Carers
- The Pall Care P & C button finds iOS Assets that are currently assigned to Pall Care patients and carers.
- The Rehab P & C button finds iOS Assets that are currently assigned to Rehab patients and carers.

Under Find Items:

- The Flagged button finds any Asset that has the Flag field set to Yes.
- The All button finds every Asset.
- The This Custodian button finds all Assets assigned to the current Custodian.
- The Not iOS button finds all Assets that are not iOS devices, such as stands, modems, WiFi access points etc.
iPad setup – Complete guide

Procedure

- Obtain the items from the appropriate checklist below
- Check that the items are in the Asset database, if not, add them in.
- Fit the micro-SIM or SIM
- Ensure the iPad has the correct Device Name and image installed.
- Login to Admin, delete the old Vidyo user and add the new Vidyo user
- Setup the Fitbit on the iPad
- Register the user in Fitbase
- Setup Rehab Tools, Patient and Nurse
- Ensure that all the required apps have been installed from Meraki.

Checklist for Rehabilitation in the Home (RITHOM)

- TR Nº from service manager
- Stylus pen (Optional, ask service manager)
- iPad stand Mophie (deluxe) with Power Adapter and Asset Nº sticker
- Fitbit Zip (Asset Nº written on with texta) (configured on iPad and in Fitbase)
- iPad power adapter (Optional)
- iPad lightning cable (Optional)
- iPad (3G/4G with Telstra micro-SIM) with Asset Nº sticker
  - Re-image with the latest Base Image and the FTHP - WiFi Payload (eduroam)
  - All RITHOM tagged Apps from Meraki
  - VidioMobile (configured to login using the Asset Nº device name)
  - FaceTime (configured to login with the Apple ID: Asset Nº@icloud.com)
  - Fitbit (configured on the iPad and in fitbase, zip paired to iPad)
  - Rehab Tools (configured with Clinician and Patient authentications: see lastpass)
  - Exercise Website “App” (with client registration on the T-Rex site).
  - CARE with registration (Care For Stroke patients only)

Setting Up an iPad – Required Items

4 Required items: You will need the Telehealth Apple MacBook, the power adapter for the MacBook Pro, the iPad you wish to setup and the lightning (USB to iPad) cable

5 Ensure that the iPad has been entered into the Asset Database and has an Asset Nº sticker on it. The sticker should display the FTHP Nº

6 If the iPad is connected to the MacBook Pro, disconnect it

7 Plug the MagSafe power adapter (for the MacBook Pro) into a power outlet and the MagSafe connector into the left hand side socket.
• An amber dot in the plug indicates that the battery is charging.
• A green dot indicates that full charge has been reached.
Setting Up an iPad - Imaging with Apple Configurator
1. Turn on the MacBook Pro
2. At the Login prompt, click on FTHP0001 User Account icon and authenticate with the Password: Flinders
3. Warning: Ensure that any iOS devices, iPhone, iPod and iPads are disconnected before launching Apple Configurator, as they may be automatically erased.
4. Launch Apple Configurator
5. Click on Prepare
6. Check that the name is correct, use the Asset Nº for the iPad, example: FTHP0020
7. Tick the profile named: FTHP - WiF Payload (eduroam)
8. Select Restore: BaselinePatients_iOS7_1.7 (or newer version if available)
9. Turn on the iPad.
10. Connect the iPad using the lightning cable to the MacBook Pro
11. If the iPad is not seen by Apple Configurator - within say 30 seconds of connection
   a. Click the Stop button at the bottom of the Prepare window
   b. Click on the Supervise button
   c. Click on USB Connected under the Supervised Devices sidebar
   d. Click on your USB-connected supervised device and select Unsupervise from the Devices Menu. (This wipes the device and sets it back to factory defaults.)
   e. Once the device restarts and displays the white apple, disconnect its USB connector and wait for it to finish starting up.
   f. Click on the Prepare button and check that the settings you require are correct.
   g. Reconnect the iPad - preparation will begin.
12. To see the progress of the preparation of your device, click on the disclosure triangle for your device.
13. When "Update Completed" is presented, click Continue

Setting Up an iPad – Connecting to the WiFi network
1. When the iPad has restarted, login by sliding to the right
2. When "Choose a Wifi Network" is presented, click Next.
3. When “Continue without WiFi?” is presented, tap Continue.
4. When "Location Services" is presented, click "Enable Location Services".
5. When “Welcome to iPad” is presented, tap Get Started.
6. Go to Settings and click Wi-Fi, select eduroam
7. When asked to accept the flinders certificate, click Accept.

Setting Up an iPad – Installing Apps with Meraki Mobile Device Manager (MDM)
1. Go to your computer and login to the Meraki site (https://account.meraki.com/login/dashboard_login?go=). (Use the authentication provided to you by the Project ICT Support Team.)
2. Click MDM (Mobile Device Manager) in the sidebar, then Add devices.
3. Scroll down so that the QR code is fully visible
4. Go to the iPad
5. Launch Meraki Systems Manager App
6. When “Meraki SM” Would Like to Send You Push Notifications is presented, click OK
7. When Error Could not connect to the host... is presented, click OK
8. Click Use QR Code and point the camera at the QR code from the Meraki web page. The iPad will recognise the QR Code and return you to the Custom Enrolment window. The code "025-961-2777" should be displayed.
9. Click enrol.
10. When "Profile Installation" is presented, click OK
11. When "Install Profile" is presented, click Install.
12. When "Profile Installed" is presented, click "Done".
13. When "Meraki MDM Would Like to Use Your Current Location", click OK
14. When "Enrolled in FTHP" is presented, click the home button at the bottom of the iPad to back out of Meraki MDM.
15. Go to your computer and the Meraki site: https://account.meraki.com/login/dashboard_login?go=

16. From the sidebar click Monitor, then click Clients
17. Click the checkbox next to your iPad in the list. The name will match the Asset Nº of your iPad. (The iPad will be tagged with "recently added".)

Setting Up an iPad – Applying Tags
- Click the Tag tab
- Click in the Add field
  - For a Rehab device, enter "r" and select RITHOM_Patient or RITHOM_Clinician as appropriate, then click "Add". Tab out of the field or click outside the field.
- Click on the Quarantine tab and select Authorize
- Click on the device in the list.
  - A new view will be presented showing the detail for the device.
- Scroll down to the "Apps" section and click "Missing".
  - At the bottom of the list, select "All".
  - Go to the "Actions" column at the right hand side of the list. For each item in the list, click "Install" and click "OK" when prompted.
  - Go to the iPad

Note: If this is a new iPad being commissioned (or it has been re-imaged), you will need to login to the iTunes Store once. To do this:
Launch the "iTunes Store", then tap the "Purchased" button at the bottom of the screen and enter the password: Flinders. (This password uses a "one" instead of an "i".)

- Navigate to the Home Screen and wait for the Apps to appear and start downloading. If the Apps do not start appearing within a minute or two, reboot the iPad and wait again. If they still do not begin downloading, ensure you are connected to wifi. If they still do not download, escalate the issue to your technical support person.

**Setting Up an iPad - Setup Telstra Dongle - 3G/4G Cellular card with WiFi Access Point**

1. Swap out the Telstra Pre-Paid SIM with a Telstra Monthly-Account SIM.
2. Record the IMEI, serial Nº, Phone Nº, etc. into the Telehealth FileMaker database.
3. Plug the dongle into a power socket.
4. Join the WiFi network (See the Wireless Security Card provided or inside the case of the modem for the SSID and the WPA key).
5. Launch Safari and go to the address 192.168.1.1
6. Enter the PIN (found under a scratch-to-reveal panel on the card the SIM came in) and select “Disable PIN” and click "Apply".
7. Click “Settings” and authenticate with username: admin, password: admin
8. If presented with a dialog indicating a weak password, tick "Do not remind me again" and proceed.
9. Go to "System -> Modify Admin Password" and Change the Admin authentication to username: admin, password: Telehealth01
10. Go to Settings
11. Authenticate with the new credentials
12. Go to WLAN -> WLAN Basic Settings
13. Change the SSID to: FTHP1, with the following parameters:
   - 802.11 authentication: WPA/WPA2-PSK
   - Encryption: AES
   - Pre-shared key:
     KC7fHdX6cwp4Hif2u5fQjyUqAgKExEwNncdB7fuai6S1DsR3ZgXkUDvxxr
   - SSID: enable
   - Click “Apply”

**Setting Up an iPad - Setting up a Fitbit Scale**

1. Plug in a wireless access point that is configured as FTHP1.
2. Join the FTHP1 network from your computer with the password: KC7fHdX6cwp4Hif2u5fQjyUqAgKExEwNncdB7fuai6S1DsR3ZgXkUDvxxr
3. Remove the battery blocking strip from the Fitbit Aria Scale
4. Launch the Fitbit WiFi Scale Setup application
5. Click Get Started
6. Click Login to your account
7. For the Email placeholder, enter the Patient Identifier email address. For example, pc018@caresearch.com.au for a Palliative Care patient. (NOTE: For Palliative Care patients, the numbers are sequential. For Rehabilitation
patients, ask Claire for the Patient Identifier as these numbers are issued from her contact in Europe.)  

8. For the Password placeholder, enter: Telehealth01 (NOTE: Get it right first time as you only get one chance to enter it).

9. Click Enter

10. At the Personal Info window, click Next

11. At the Scale Info window, click Next

12. At the Would you like to use FTHP1 to connect to your scale, click Yes.

13. Wait while the scale joins the network. If you have problems at this stage, manually configure the IP settings for the scale's network and try again. Often the Mac will join the wrong network because it is stronger. The config process often fails because of not being able to switch to the correct network at the appropriate time.

14. At the Success window, click Done.

15. Ensure the Fitbit Aria Scale is entered into the Assets FileMaker database.

16. Print an Asset label and apply it inside the battery compartment.

Setting Up an iPad - Setting up a Fitbit Zip

1. Fitbit Zip

2. Setting up the Fitbit Zip

3. Unpack the Fitbit Zip

4. Test the battery with a battery tester or voltage meter. The battery is a 3V Lithium disc (2025) type and should be at least 3V when new. It will need replacement if it is less than around 2V. Many of our Fitbits have flat batteries out of the box and those batteries will need to be replaced.

5. Fit the battery to the Fitbit Zip (while taking care to insert it the correct way around) using the supplied tool (or a coin) to remove/replace the cover on the back.

6. Tap the Fitbit Zip with your finger and the display should change to a smile.

7. Setting up the iPad for your Fitbit Zip

8. Ensure that you have the Fitbit App installed on your iPad. If not, do that and return.


10. If the Fitbit App has been setup with another user, tap on account, swipe up from the bottom of the screen and tap log out.

11. Tap "Join Fitbit"

12. Tap "Setup Your Zip"

13. Tap "Let's Go"

14. When presented with "How tall are you?", slide the scale to 165 cm, then tap "Next Step".

15. When presented with "What's your gender?", tap on the female form, then tap "Next Step".

16. When presented with "What is your weight?", slide the scale to 32, then tap "Next Step".

17. When presented with "What is your birthday?", slide to 1 Jan 1951, then tap "Next Step".

18. For the Email placeholder, enter the Patient/Carer Identifier email address. For example, pc018@caresearch.com.au for a Palliative Care patient. (NOTE: For Palliative Care patients, the numbers are sequential. For Rehabilitation patients, ask
Claire for the Patient Identifier as these numbers are issued from her contact in Europe.)

19. For the Password placeholder, enter: **Telehealth01** (NOTE: Get it right first time as you only get one chance to enter it).

20. Click Return

21. At the “Before you start setup” dialog, click Start.

22. At the Looking for your Zip dialog, tap your Zip to wake it up.

23. At the We found a Zip dialog, click Next.

24. At the Please enter the number on the display of your Zip., enter the number displayed on your Zip.

25. Click Next

26. Click Done

27. At the “Fitbit would like to send you push notifications dialog”:

27.1. For Palliative Care patient, click Don’t Allow

27.2. For Rehabilitation patient, click Allow

28. At the Setup screen, click Edit:

28.1. For Palliative Care patient, keep steps, weight and distance, remove others (Click the “✓” button to toggle between ticked and not ticked).

28.2. For Rehabilitation patient, keep steps and distance, remove others (Click the “✓” button to toggle between ticked and not ticked).

28.3. Click Done.

29. Click Account.

30. If you do not see Fitness Goals, click the back arrow at the top LHS of the screen.

31. Click Fitness Goals and set the following:

31.1. Steps: 1000

31.2. Distance: 1 km

32. Click Account at the top LHS of the screen

33. Click Zip

34. If Zip Update Available is shown, click on it.

35. The “A few things to know before updating your Fitbit Zip” dialog appears.

36. Drag up and click Next.

37. Place your Zip near the iPad (and tap it to wake it up if necessary).

38. The “Updating your Zip” dialog appears. A progress bar appears on your Zip.

39. Wait for completion (up to 10 minutes). If there is a problem resulting in an unsuccessful or incomplete update, you can quit the Fitbit App, relaunch it and run the update process again. If it did not complete, it will resume.

40. When the “Your update was successful” dialog appears, click Done.

41. Ensure the Fitbit Zip is entered into the Assets FileMaker database.

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1. Click on Flinders Telehealth
2. On the RHS sidebar, look for User Invitations and click Add/Edit.
3. Click Manually Connect Device.
4. Fields
Setting Up an iPad - Vidyo App (on the iPad)

1. Open Vidyo Mobile

2. Enter the Vidyo credentials and click login:
   - Portal: asset#.vidyo.flinders.edu.au (example: fthp0037.vidyo.flinders.edu.au)
   - Username: asset# (example: fthp0037)
   - Password: Telehealth01

3. Click on the settings icon at the bottom right of screen and enable Always use VidyoProxy.

4. Click Contacts

Setting Up an iPad – Configure Facetime

1. Open Settings
2. Tap on iCloud
3. Tap “Get a free Apple ID”
4. Enter 01/Jan/1951 as the date of birth and tap Next
5. First name: fthp
6. Last name: the 4 digits on at the end of the asset number (example: 0037)
7. Tap Get a free iCloud email address, then tap Next
8. Email: fthpxxxx@icloud.com, where xxxx is the 4 digits on at the end of the asset number (example: fthp0037@icloud.com), then tap Next
9. Check that you have typed it correctly and tap Create
10. Password: Telehealth01
11. Verify: Telehealth01 and Next
12. Security Questions - select and complete as follows:
   - Question 1: What is the first name of your best friend in high school?
   - Answer 1: Flinders
   - Question 2: What was your childhood nickname?
   - Answer 2: Telehealth
   - Question 3: What is the name of your favorite sports team?
   - Answer 3: Project
13. Rescue Email: fthp@flinders.edu.au
14. Disable Email Updates.
15. Agree to the EULA.
16. Agree to the Terms and Conditions
17. Don’t Merge with iCloud
18. OK to Allow iCloud to use your location.
19. Turn off syncing for all items.
20. Tap on Photos and turn off Photo Syncing.
21. When launching FaceTime, login using the newly created AppleID credentials: <AssetNº>@icloud.com and password Telehealth01.
22. Once the Facetime account is verified, close settings.

Adding a User to the T-Rex Exercise Web Site
1. In a web browser, go to t-rex.net.au
2. Authenticate as Username: servicemanager, Password: ServiceM101!
3. Click "I agree to Terms & Conditions".
4. Click "Log In".
5. Go to the Exercise Plans area.
6. Click "Add New"
7. If you know the client's name, populate the Client First Name and Client Last Name fields appropriately, otherwise use the Asset Nº for both fields.
8. For the Client Username placeholder, enter: the Asset Nº. For example, FTHP0116 etc.
9. For the Password placeholder, enter: Telehealth01
10. For Exercise Label, enter: None
11. For Internal-Use Label, enter: None
12. Click "Save Exercise Plan".
13. Click "Publish".
14. Repeat step 12, Click “Save Exercise Plan”
15. Click “Update”

Setting up the Exercise “App” on an iPad

1. Go to your computer and login to the Meraki site (https://account.meraki.com/login/dashboard_login?go=). (Use the authentication provided to you by the Project ICT Support Team.)
2. Click MDM (Mobile Device Manager) in the sidebar, then Profiles.
3. Click “Add New” towards the top right of windows and then “New Mobile Profile”
4. Create a new mobile profile with the following information and click “Save New Profile”
   - Configuration: “Use the Meraki Dashboard to create a conf...”
   - Name: RITHOM_Asset# of Device (example: RITHOM_FTHP0037)
   - Removal Policy: “Require password to remove this profile”
   - Password: 1937
   - Scope: Apply to devices “with ANY of the following tags”
   - Use the Asset number of the device for the tag – Click “Add option” if there are no results
5. Click MDM (Mobile Device Manager) in the sidebar, then Setting.
6. Select the profile from the dropdown box towards the top left of window.
7. Click on Web Clips
8. Click “Create a Web Clip” and enter the following information;
   - Label: Login
   - Removable: Blank/Not ticked
9. Click “Save Changes”
10. Click “Add a new Web Clip” towards the bottom left of window and enter the following information;

**Label:** T-Rex

**URL:** http://t-rex.net.au/exercise-plan/asset# (example: http://t-rex.net.au/exercise-plan/fthp0307/)

11. Click “Save Changes”
12. To push the web clip out to the device you will need to assign the tag to the device;
13. From the sidebar click Monitor, then click Clients
14. Click “Edit details”, just below the device name
15. In the tags field, type in the asset# and click on it to select
16. Click “Save”

17. The web clip will be pushed out to the device when it next check’s in.

*Note: You can force the profile to be pushed out to the device by clicking on “Install missing/updated profiles” which is located approximately ⅓ way down under the Profiles heading.*