Implementing telehealth innovations
In a rural pediatric allied health and education service

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Advisors: Prof Deborah Theodoros, Prof Trevor Russell, Prof Nicole Gillespie, Dr Nicole Hartley

Research partnership between

Research aims
• Understand practice and organisation change involved in the implementation of multiple models of TH in an existing health organisation.
• Evaluate the impact of TH delivery on access to services, costs, clinical or learning outcomes and satisfaction.
Methods

• three telehealth models within BUSHkids
• not-for-profit organisation providing free allied health + education services to Queensland regional and remote families.
• Qualitative: practice change (care observations, semi-structured interviews)
• Quantitative: cost, access, satisfaction and clinical outcomes
Telehealth services trialled

1. Brisbane
   - Psychologist
   - Child + Parent
   - Facilitator
   - VC
   - n = 43 parents + children

2. Emerald
   - SLP
   - Child + Parent
   - Receptionist
   - VC
   - n = 18 (IP) + 16 (TH) parents + children

3. Warwick
   - Webinar
   - Presenter
   - Parents
   - n = 26 (IP) + 21 (Web) parents + managers

4. Dysart Community Centre
   - Child + Parent
   - Receptionist
   - VC

5. Mount Isa
   - Client home in Bundaberg region
   - SLP
   - Child + Parent
   - VC
## Practice change results

<table>
<thead>
<tr>
<th>Practice changes</th>
<th>Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Psychology</strong></td>
<td></td>
</tr>
<tr>
<td><em>Additions:</em> guidelines, training, facilitator, technology, live coaching, talking about TH, additional preparation, longer intakes, using computer during Rx. <em>Substitutions:</em> sitting at desk, electronic measures/games, verbal gambits.</td>
<td></td>
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<tr>
<td><strong>Speech therapy</strong></td>
<td></td>
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<tr>
<td><em>Additions:</em> guidelines, training, facilitator (Partner), technology, box/pack of activities/rewards, additional preparation and follow-up, troubleshooting. <em>Substitutions:</em> sitting at desk, parents presenting stimuli/tasks/prompts.</td>
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<tr>
<td><strong>Parent education</strong></td>
<td></td>
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<tr>
<td><strong>webinar</strong></td>
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<tr>
<td><em>Additions:</em> training, webinar platform, posting materials, explaining chat/raise hand functions, checklist. <em>Substitutions:</em> less of presenter visible, participants not visible on video or heard via audio, electronic measures, referring to generic services. <em>Omissions:</em> fewer questions, presentation more ‘on script’.</td>
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</tbody>
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- extending roles
- maintaining therapeutic presence
- formalising practice
- extending roles
- preparation and adaptation of resources
- compensating for physical objects/touch
- less interactive delivery
- fewer opportunities to build rapport
- building educator efficacy with technology
Impact results: Psychology

<table>
<thead>
<tr>
<th></th>
<th>Access</th>
<th>Cost</th>
<th>Clinical/learning outcomes</th>
<th>Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TH 2.67 IP 0.38 consults/day</td>
<td>TH $103.93 IP $165.50 / hour</td>
<td>Parent-reported ORS</td>
<td>Parent* Median</td>
</tr>
<tr>
<td></td>
<td>TH 19% IP 22% cancellation rate</td>
<td>$187.11 travel cost avoided/family</td>
<td>16/23 65% CSI</td>
<td>6 - 7 initial, 7 final</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Child-reported ORS</td>
<td>Provider Median</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Sample size too small</td>
<td>5.5 - 7 initial, 6 - 7 final</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Parent SRS 66% &gt; cut-off</td>
<td>Child</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Child SRS Sample size too small</td>
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<td></td>
<td></td>
<td></td>
<td>SDQ and PSC no change</td>
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</tbody>
</table>

ORS = Outcome Rating Scale  SRS = Session Rating Scale
SDQ = Strengths and Difficulties Questionnaire
PSC = Parenting Sense of Competence
* Caution = low return rate final surveys
Impact results: Speech therapy

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<th>Access</th>
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<th>Satisfaction</th>
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</thead>
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<tr>
<td>Partner TH 21</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Home TH 49 consults</td>
<td></td>
<td></td>
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<tr>
<td>Partner TH 10%</td>
<td>Home TH 14%</td>
<td>GAS CSI</td>
<td>Parent Median range 6 - 7 at both initial and final</td>
</tr>
<tr>
<td>Baseline 16% cancellation rate</td>
<td></td>
<td>Total TH 5/9 56%</td>
<td>Provider 28/32 qs received positive answers</td>
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<td>TH average 182.89 km round trip avoided</td>
<td></td>
<td>IP 6/8 75%</td>
<td>Child Sample size too small</td>
</tr>
<tr>
<td>Client + clinician travel avoided</td>
<td></td>
<td>Significant ↑ in client median attainment scores and in all goals both groups</td>
<td></td>
</tr>
<tr>
<td>Partner TH $3,542.72</td>
<td>Home TH $20,816</td>
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TH = telehealth  IP = In-person

GAS = Goal Attainment Scale
CSI = Clinically significant improvement
## Impact results: Parent education

**Access**

- Webinar Attendees: 21
  - IP 26
- Webinar travel avoided: 0 to >200km

**Cost**

- Webinar: $150.50/event
  - IP
- IP: $182.66/event

**Clinical/learning outcomes**

- SCORE % moderate-significant improvement:
  - Webinar: 79-92%
  - IP: 73-87%

**Satisfaction**

- Parent Provider: 83-100%
  - IP: 93% positive
  - Provider: 15/19 positive

**Note:** IP = In-person
Clinical implications

- Acknowledge importance of parents as key stakeholders
  Discuss, monitor, collect information

- Acknowledge intellectual, emotional and time commitments for clinicians
  Support, supervision

- Clinician engagement
  TH practice is largely additions and substitutions
  Key skills: Therapeutic presence, collaborating with parents, interactivity and rapport

- High volume of clients
  On the ground staff, referral agreements

- Increase access
  Universal and group services

- Eliminate unnecessary costs
  Monitor preparation time vs. avoided travel time

- Use in-person protocol to monitor quality of care
  Investigate child experience

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BUSHKIDS
Royal Queensland Bush Children’s Health Scheme

Centre of Research Excellence in Telehealth

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AUSTRALIA