Exploring stakeholder experience of eHealth in services for children with hearing loss

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Research, commercialisation & education in model of hearing healthcare providing:

- **Disability Prevention**: Intervention before irreversible degradation
- **Integrated Intervention**: Sensory + cognitive
- **Patient-centric Model**: Tailoring service to individual need
- **Effective Outreach**: Accessible, efficient, tailored services for Australians of all ages

**Overall project aim**: decrease impact of hearing loss on children with hearing loss and their family by using eHealth to facilitate a family-centred model of hearing health care
Background

- Prevalence of paediatric hearing loss:
  - 1.1 / 1,000 babies with mod-severe bilateral hearing loss (Australian Hearing, 2015)

- These infants need access to:
  - Intervention by 6 mths of age, including access to high quality hearing aids, cochlear implants & other devices when appropriate
  - Early intervention programs that are
    - Interdisciplinary
    - Specialised
    - Family-centred

(Joint Committee on Infant Hearing, 2007)
Background & aim

- In Australia, specialist EI services located in cities & major regional centres
- Therefore, eHealth methods increasingly being used to improve access
- Emerging evidence for efficacy & cost effectiveness (e.g., Behl et al., 2017, Blaiser et al., 2013; Govender & Mars, 2017; Constantinescu et al., 2014)
- Beginning to understand how eHealth can promote effective family-centered practices
  - ↑ parent engagement
  - Involve other family members
  - Emphasis on coaching parents to develop child’s skills

Aim: To explore stakeholder experiences in delivering or receiving family-centred early intervention for children with hearing loss via eHealth.

(McCarthy, Leigh, & Arthur-Kelly, 2018)
Methods

6 Service Providers:
- 5 not for profit early intervention & 1 public health hearing implant program
- Providing services to all Australian states + overseas
- Typically hybrid model incorporating videoconferencing & in-person visits

Participants:
14 Parents from 12 families
- Mother (n=12), father (n=2)
- Mean length of enrolment = 3.3 years (range; 0.4-6.3 years)

29 Professionals
- Speech pathologist (n=15), teacher (n=8), audiologist (n=3), social worker (n=1), manager (n=1), speech pathologist & audiologist (n=1)
- Mean experience with paediatric hearing = 12.0 years (range; 0.8-35 years)
- Mean experience with eHealth = 6.0 years (range; 0.5-16.0 years)
Methods

Semi-structured in-depth interviews
• Experience with eHealth
• Benefits, challenges, gaps in services
• Family-centredness of services

Interviews conducted
• May 2016- June 2017

Analysis
• Thematic analysis to identify themes & subthemes
Results

<table>
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<th>Key themes</th>
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<td>How models of service involving eHealth methods promote family-centred care</td>
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<td>1. eHealth optimises the use of naturalistic environments</td>
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<td>2. eHealth promotes the family as the agent of therapy</td>
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<td>3. The eHealth model is responsive to the family’s needs</td>
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Theme: eHealth optimises the use of naturalistic environments

- eHealth uses the family environment

“We had our goal and activity and the parent was able to hold the iPad while facilitating the water play … It was lovely, and the dog even got involved.” (Speech Pathologist)

- eHealth promotes carryover
- For eHealth families, eHealth is more natural & comfortable
- eHealth enables naturalistic assessment and observation
- In-person management in the natural environment
Theme: eHealth promotes the family as the agent of therapy

• There is an increased family role in eHealth sessions

  “I’m glad that I can be [Child’s] first teacher.” (Parent)

  “I really love when I see parents just take it on. And they are absolutely the expert in what their child should be doing. And that’s exactly how it should be.” (Teacher)

• eHealth facilitates the development of family skills
• eHealth facilitates the development of early intervention professional coaching skills
• Parents may take the role of therapy assistant
• The increased family role invites challenges
Theme: The eHealth model is responsive to the family’s needs

• eHealth provides access to services

  “I think what’s wonderful for me is to know that we can provide a service to anyone no matter where they are without restraint. If they’ve got a library near them, if they’ve got a hospital with a video conferencing facility, if they’ve got a computer at home, we can provide the therapy service that we would provide to anyone living five minutes away.” (Speech Pathologist)

• eHealth models are flexible & convenient
• eHealth can facilitate peer to peer support & education
• In-person components of the service model can facilitate peer to peer support & education of families
• eHealth promotes collaboration & coordination of services to address family needs
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<th>Considerations for meeting families’ needs</th>
<th>4. Stakeholders play a critical role in an eHealth model of service</th>
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<td>5. Considerations for implementation of an eHealth service delivery model</td>
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<td>6. Comparing eHealth with in-person services</td>
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Theme: Stakeholders play a critical role in an eHealth model of service

- Child factors are important considerations
- Family factors are important considerations
- Early intervention professional factors are important

“I think you need a certain set of skills. I think you do need to be trained. I think it’s a pedagogy. I don't think that anybody who doesn't have training or with the flexibility or the skills required can pick up an IPad, provide a session that is of good quality.” (Audiologist/ Speech Pathologist)

- Preparing early intervention professionals’ and parents’ expectations for how the eHealth service & individual sessions will run is considered important
- Organisation factors
Theme: Considerations for implementation of an eHealth service delivery model

- Preparation and follow-up
- Aspect of management
- Having in-person contact
- eHealth technology
- Funding and costs
- Time

“I’ve got one mum who’s been doing telepractice for five years and so she’s great at pretty much running the session and I’m just there to kind of guide her with how to make it easier or harder, but then other parents need a lot of support about what they should actually be saying and doing. I find they’re more the newer parents to the program.” (Speech Pathologist)
Theme: Comparing eHealth with in-person services

• Developing a therapeutic relationship through eHealth may be different
• There are both similarities and differences in eHealth and in-person delivery
• Confidence in outcomes and equity of service
• Preference for in-person services

“Often the thing is there’s nothing that beats face to face. I don't know if that’s the quality of the outcomes, engagement or just, you know, human contact”
(Manager)
Summary & future directions

eHealth supports families through:
• Providing access to flexible services that meet families’ needs
• Recognising family strengths
• Promoting family participation

Increased role of the family highlights:
• Importance of self-efficacy & confidence
• Importance of training & support
• Importance of expectations & recognising preferences

Next steps for optimising application of eHealth for children with hearing loss:
• Supporting families in decision to access eHealth
• Better supporting families & professionals through training, support & communities of practice
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