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# Investigating the potential for telepractice to improve paediatric feeding care

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Service Improvement

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## Summary

This project identified key needs, such as the need to use specific camera angles and to ask parents to send pictures of some assessment elements prior to the appointment. Once this system had been

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designed, we investigated its reliability by assessing the feeding skills of 30 bottle feeding infants and 40 children cup drinking/eating solids. Children's feeding skills were simultaneously assessed by a speech pathologist (SP) in their home and a SP via telepractice to compare assessment findings. Results indicated high reliability for most assessment elements; indicating that assessments conducted via telepractice were comparable to assessments conducted in person. Parents and clinicians reported high satisfaction with the telepractice model, and many indicated a preference for a hybrid model (combination of in-person and telepractice appointments) for ongoing care. The telepractice appointment model was also associated with significant time and cost savings for families. The telepractice service model is now embedded into clinical care at the Queensland Children's Hospital, allowing us to offer appointments flexibly and in the way that best meets child and family needs. This project also highlighted the need for paediatric feeding services to better meet family needs, and the need to integrate telepractice as a standard service delivery model. It demonstrated that paediatric feeding assessment tasks could be reliably completed via telepractice, and result in high satisfaction and significant time and cost benefits for families. Overall, the findings of this project support the integration of telepractice into standard models for paediatric feeding care.

### Key dates

Jan 2021

Dec 2021

### Implementation sites

Queensland Children's Hospital and Logan Hospital

### Partnerships

Dr Jeanne Marshall, Professor Elizabeth Ward, Dr Clare Burns, Dr Joshua Byrnes, Dr Clifford Afowakah, QCH feeding team clinicians, and children and families accessing QCH Feeding Services

## Key Contacts

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## **Aim**

The overall project aim was to provide evidence to support and facilitate the use of telepractice to deliver paediatric feeding assessments. Specific aims were to:

- understand factor/s impacting family's abilities to access in-person feeding services and what issues needed to be addressed to better meet family needs
- design and pilot the system architecture required to complete telepractice feeding assessments in family homes
- investigate the reliability of telepractice feeding assessments (compared to in-person assessments)
- evaluate clinician and parent satisfaction with the telepractice appointment model
- evaluate the time and costs associated with the telepractice model (compared to the traditional in-person model)

## **Benefits**

The use of the four-phase iterative design aided the development of a functional telepractice system. Key findings included the need for a combination of synchronous and asynchronous methods to enable completion of all assessment elements, identification of key camera positions to optimise video/audio information, and that information sheets sent before the appointment optimised user experience.

## **Background**

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Paediatric feeding disorders can impact a range of children, and access to care may be difficult for families. As part of this research, we partnered with families to understand the barriers they faced accessing feeding care and identified telepractice as a potential model to help reduce some of these difficulties. Although there was research evidence supporting the use of telepractice in adult dysphagia (swallowing disorders) there was limited research in paediatrics, meaning we needed to develop and test a telepractice model to ensure it provided comparable care to traditional in-person appointments. The first steps involved planning and trialling the telepractice model using simulation and live-trials with typically developing children.

## **Solutions Implemented**

The results of this project have supported the implementation of telepractice as a standard model of care within the QCH feeding clinic and have been integral in the feeding teams COVID-19 pandemic response to support continuation of care during restrictions on in-person services. Outside of the COVID response, the project has resulted in a 460 per cent increase in telehealth occasions of service over a 3-year period (2018-2020). This project also supported the development of a number of resources that support clinical practice including the development of telepractice information sheets for families, guidelines and an online training package for clinicians.

## **Evaluation and Results**

A mixed-methods design was used which incorporated:

- questionnaire and qualitative interviews to understand factors impacting access to feeding services
- four-phase iterative design informed by human-centred design principles to develop and pilot the system architecture for telepractice feeding assessments
- non-inferiority method comparison design (simultaneous in-person and telepractice assessment) to evaluate assessment reliability
- satisfaction questionnaires to evaluate clinician and consumer satisfaction with the telepractice appointments
- cost questionnaires, with results analysed using cost minimisation and cost modelling approach, to understand time/cost associated with telepractice model.

It was identified that accessing a one-hour in person paediatric feeding appointment was associated with significant family burden with 85 per cent of the cohort indicating that attending their child's appointment took at least half a day. Attendance at each appointment was associated with costs between \$53-\$508 and the main barriers to access included:

1. distance and travel
2. impact on daily activities (e.g. work and school)
3. parent perception of inaccurate representation of their child's feeding skills within the clinic environment.

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Telepractice feeding assessments were conducted with 30 bottle feeding infants and 40 children who were eating solids/cup drinking. Findings indicated that most assessment elements could be reliably completed via telepractice with >80 per cent exact agreement for all assessment elements except intra-oral assessment elements (including elements of tongue tie screen, assessment of palate integrity and assessment of tonsils) and assessment of gagging during infant oral reflex exam. Parents and clinicians were highly satisfied with the telepractice appointment; 90 per cent of clinicians agreed that telepractice was an effective service delivery method and 76 per cent of parents reported that telepractice was similar to a traditional in-person appointment.

The telepractice appointment was associated with significant time and cost savings for families - \$95.09AUD per appointment per family. Cost modelling estimated this could result in cost savings of up to \$475.45 per family if 50% of appointments in a 10-session block were converted to telepractice.

## **Lessons Learnt**

Acknowledge Men's and Women's business from the start of the project.

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