

# ESTABLISHING A REGIONAL PAEDIATRIC VIDEOFLUOROSCOPIC SWALLOW STUDY (VFSS) CLINIC VIA TELEHEALTH TO IMPROVE OUTCOMES FOR CHILDREN WITH OROPHARYNGEAL DYSPHAGIA

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## Background & Aims

The paediatric videofluoroscopic swallow study (VFSS) is an interdisciplinary, dynamic, radiographic instrumental assessment of swallowing, which is most often accessed in tertiary children's hospitals. Children with feeding/swallowing disorders (and their families) in regional/rural communities often travel vast distances to access this diagnostic test. Supporting the establishment of local paediatric VFSS clinics in regional settings, and training speech language pathology (SLP) staff in conducting and interpreting VFSS can improve children's access to care, reduce wait times to accurate diagnosis and appropriate treatment, and reduce financial burden on the family. Telehealth is one method, where expert clinicians in tertiary centres can remotely attend regional clinics and mentor regional SLPs until they achieve skills required for independent practice.

**Aims:** The overarching aim was to determine the feasibility and acceptability of a telehealth mentoring program to support regional speech pathologists to establish a local paediatric VFSS clinic and gain independent practice (VFSS competency) in conducting and interpreting studies by:

- Determining whether the images observed by the mentor during synchronous VFSS attendance at the remote site were sufficient to determine aspiration compared to the digital images obtained in the fluoroscopy suite
- Determining whether technical aspects of the technology were acceptable at the remote site (establishing the telelink in a timely manner; clarity of images, clarity of audio, any technical issues & positive/negative aspects of the study).
- Determining impact of a local paediatric VFSS clinic on families in terms of waiting times, time taken to attend appointments and financial resources compared to accessing services at the tertiary paediatric hospital (93 kms away).

## Methods

**Study Design:** Prospective, cohort study  
**Participants:**

1. Children attending VFSS for evaluation of swallowing difficulty at SCHHS & their parents/carers.
2. Regional SLPs & visiting paediatric Radiologist at SCHHS
3. Specialist/mentor SLP at GCHHS

**Procedure:** Three regional-based SLPs attended a 2 day paediatric VFSS workshop delivered by the specialist SLP at their regional hospital. Following the workshop, the regional SLPs conducted paediatric VFSS with a visiting paediatric radiologist in attendance and the specialist SLP/mentor synchronously attending the clinic via telehealth (166 kms away). A live display feed from the Siemens Artis Zee MP fluoroscopy unit was fed to into the mobile telehealth unit via a DVI Splitter Amplifier and cables. The specialist SLP completed an online analysis of the VFSS in real time, using the Penetration-Aspiration Scale and the Dysphagia Outcome Severity Scale; and then reviewed a direct copy of the child's VFSS on IMPAX and re-rated the PA scale and the DOSS (currently under analysis).

Regional & specialist SLPs completed questionnaires exploring perceptions of using telehealth during the VFSS clinic and as a training support tool.

Parents completed a questionnaire about accessing the local service, time spent traveling, referral to procedure wait time, financial costs associated with attending the procedure, and child behaviour.

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## Results

- 2 SLP's achieved Paediatric VFSS competency via TeleHealth mentoring.
- 100% families surveyed preferred to access a local Paediatric VFSS

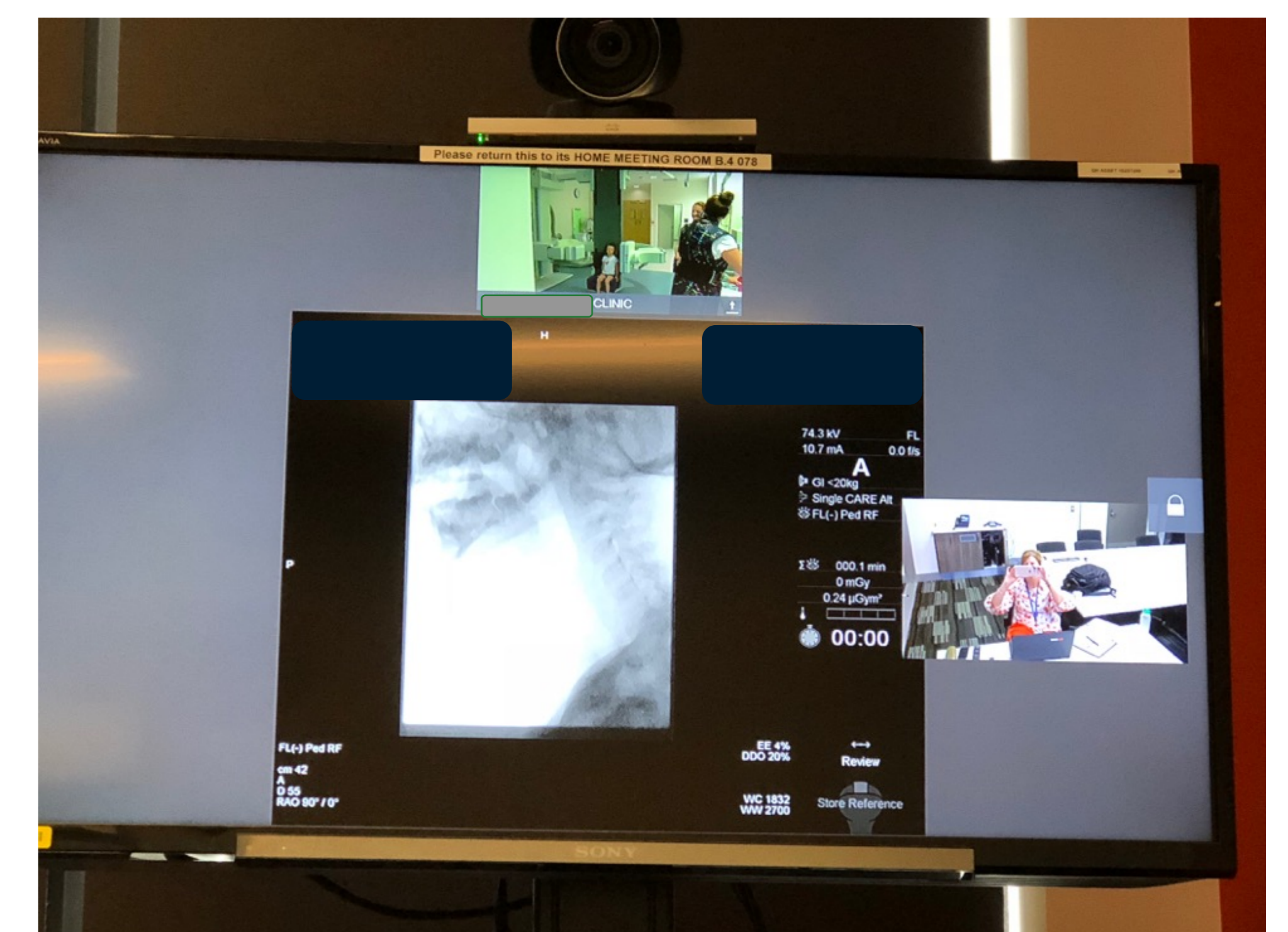


Figure 1: Specialist SLT synchronous remote presence at Regional VFSS clinic.

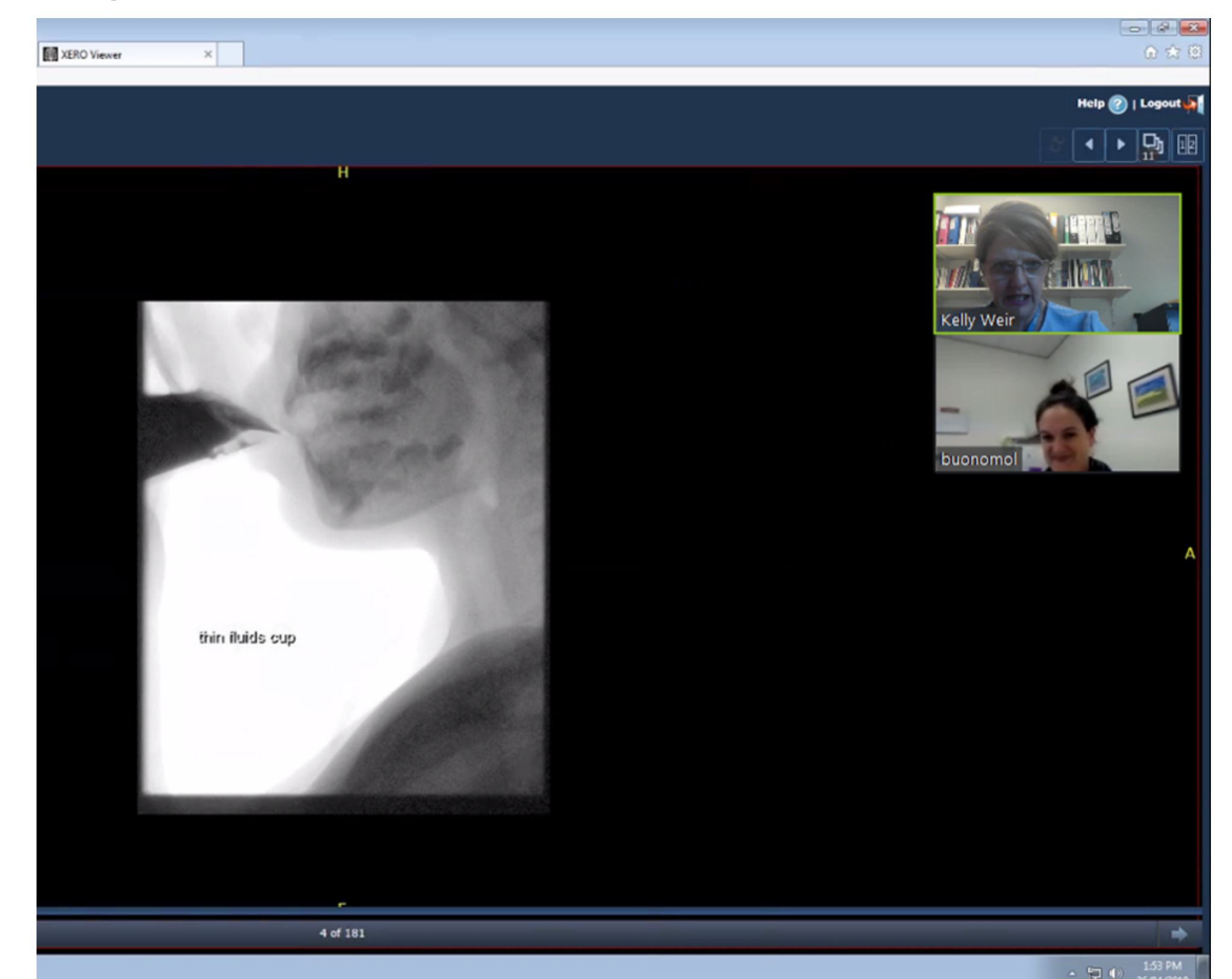


Figure 2: Post Clinic telelink between specialist & regional SLPs to review /interpret VFSS image on IMPAX, confirm diagnosis/ratings & determine recommendations for child.

## Conclusion

- Telehealth was a successful medium to support the establishment of a successful regional paediatric VFSS clinic & mentoring SLPs in attaining VFSS competencies
- Remote images were of acceptable clarity for accurate diagnosis of laryngeal penetration/aspiration & VFSS findings to support regional SLPs
- Remote telehealth support was acceptable to both SLPs & families

## References

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