



Spotlight on virtual care: Virtual Multidisciplinary Feeding Clinic at The Children's Hospital at Westmead

Sydney Children's Hospitals Network

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A collaboration between local health districts,
speciality health networks, ACI and eHealth NSW.

The 'Spotlight on Virtual Care' reports showcase innovation and leadership in virtual health care delivery across NSW. The series aims to support sharing of learnings across the health system and outlines the key considerations for implementation as identified by local teams.

Each initiative within the series was selected and reviewed through a peer-based process. While many of the initiatives have not undergone a full health and economic evaluation process, they provide models that others may wish to consider and learn from.

These reports have been documented by the Virtual Care Accelerator (VCA). The VCA is a multi-agency, clinically focused unit established as a key partnership between eHealth NSW and the ACI to accelerate and optimise the use of virtual care across NSW Health as a result of COVID-19. The Virtual Care Accelerator works closely with Local Health Districts (LHDs) and Specialty Health Networks (SHNs), other Pillars and the Ministry of Health.

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Introduction

The Children's Hospital at Westmead's multidisciplinary feeding clinic uses videoconferencing to provide care, remotely, to children across NSW with various feeding difficulties. This Spotlight on Virtual Care report demonstrates how virtual care has enabled better care provision than in-person appointments, with children able to demonstrate natural behaviours in their home environment. The complementary Spotlight on Virtual Care short film showcases the enhanced patient and clinical experiences, as well as outlining the system benefits of the remote feeding clinic for the Sydney Children's Hospitals Network (SCHN).

Complex feeding difficulties, such as swallowing incoordination, oral motor and sensory problems, or those experienced during the transition from non-oral to normal feeding patterns, can impact a child's growth, oral motor skills and nutritional wellbeing. It is important to diagnose and treat these issues in a timely manner to support a child's developmental outcomes. Aligned with the [first 2,000 days framework](#), early treatment and diagnosis has been shown to positively impact life experiences well beyond developmental years.¹

In some circumstances, the expertise required to diagnose and treat feeding difficulties can be accessed locally through allied health professionals, general practitioners (GPs), paediatricians and child and family health nurses. When this is not available or when children are faltering in their development, referral to the specialist multidisciplinary service may be required.

SCHN offers feeding and dysphagia services at both The Children's Hospital at Westmead and Sydney Children's Hospital, Randwick to manage ongoing feeding concerns that cannot be addressed locally. Children may be referred from across NSW to either the Westmead or Randwick service, based on the referring clinician's location and parent or guardian preference.

The feeding and dysphagia service at The Children's Hospital at Westmead, is made up of three outpatient clinics:

- multidisciplinary feeding clinic
- dysphagia and nutrition clinic
- feeding service – speech pathology

This virtual care initiative report focuses on the multidisciplinary feeding clinic. This clinic supports patients with feeding difficulties associated with medical conditions such as cardiac, renal and mild-to-moderate disability. The multidisciplinary team provide assessments of feeding and nutrition, treatment consultations and reviews, with input from a paediatrician, speech pathologist and dietitian. This care includes feeding observations, which previously required parents or guardians to prepare and transport food for their child to take part in the examination at Westmead.

In March 2020, the multidisciplinary feeding clinic transitioned all consultations to virtual delivery to mitigate the risks of COVID-19 transmission, as well as adhere to physical distancing restrictions.

Offering care virtually enhanced the timeliness and accessibility of the service and improved the quality of care. Observing children in their own home, eating familiar food in a natural environment, increased the reality of observations and accuracy of assessments. Virtual care also minimised disruption to the lives of children and their families.

Following the success of virtual delivery, the multidisciplinary feeding clinic continues to offer this modality, with two thirds of consultations taking place virtually.

The service overview in this document summarises elements of the virtually-delivered consultations. Some elements are applicable across specialties and are not specific to a paediatric setting. Virtual care in a consumer's home enables clinicians to see the home environment, enhancing care across a number of specialities.

¹ NSW Health First 2,000 Days Implementation Strategy 2020-2025

Reported benefits of the model

Consumer benefits

- Increased comfort for the child given they are in a familiar environment with parental or carer support. This reduces stress and behavioural difficulties (compared to the distress and anxiety associated with the hospital environment).
- Reduced cost, inconvenience, and disruption to family life, including:
 - costs associated with extended travel to the hospital for those living in rural and regional communities
 - costs associated with parking or travel on public transport
 - time required to travel to attend a consultation
 - disruption to family routines
 - absence from work and school.
- Additional family members can be involved in the consultation, which may not have been possible with in-person appointments.
- Other health and social care providers who the family are familiar and comfortable with can be involved in the consultation, and assist in the implementation of recommendations.

Clinician benefits

- Children are more likely to demonstrate their regular behaviours in their home environment, aiding observation and offering insights into factors affecting their feeding (this is challenging in the hospital environment).
- Improved accuracy of observations increases the quality of assessments.
- Local therapists, such as private occupational therapists, can take part in consultations. This promotes integrated care and supports ongoing collaboration and management between clinicians.
- During the COVID-19 pandemic, interacting virtually with families allowed consultations to continue if the child or family members were unwell and mitigated the risk of transmission to the clinical team.

Service benefits

- Reduced non-attendance as virtual consultations cause less inconvenience for families.
- Improved clinic efficiency with increased flexibility to:
 - engage families at short notice (e.g. remind those who have forgotten an appointment)
 - allocate urgent appointments
 - re-allocate last-minute cancellations.
- Ability to offer consultations to rural and regional patients. This can improve accessibility of care for patients who may not have been able to access the outpatient clinic in-person.

Overview of the model

Key elements of the model

Element	Detail
Service users	<p>Children may be referred from anywhere across NSW to the multidisciplinary feeding clinic for:</p> <ul style="list-style-type: none"> • oral motor and sensory problems resulting in poor growth • swallowing incoordination conditions • support for transition from non-oral to normal oral feeding patterns.
Referral pathway	<p>As a tertiary service, a written referral from a paediatrician or paediatric specialist is required. Discharge referrals are regularly received from inpatient services requiring a continuum of care.</p>
Healthcare team	<p>The multidisciplinary team dedicate one day a week to the feeding clinic, with two thirds of clinic consultations taking place virtually. Each consultation includes a:</p> <ul style="list-style-type: none"> • paediatrician • speech pathologist • dietitian. <p>The clinical team members are supported by local therapists if families wish to engage them.</p>
Technology	<p>Existing technology is used to provide this service.</p> <p>At the feeding clinic there is:</p> <ul style="list-style-type: none"> • Two desktop monitors, computer with a camera, multidirectional microphone and speakers • NSW Health approved videoconferencing platform • SCHN eMR <p>The patient needs to have:</p> <ul style="list-style-type: none"> • Personal device with camera and stable internet connection, positioned with view of the patient in a highchair or at the kitchen table • Laptop is preferred, but tablet and mobile phone can also be used

The service

The multidisciplinary feeding clinic assists children with feeding difficulties and provides a continuum of care for discharged inpatients. The multidisciplinary feeding clinic includes a general paediatrician, speech pathologist and dietitian who conduct in-person and virtual consultations.

The consultation may include:

- assessment of feeding and nutrition
- specialist medical investigations
- review, including dietetics and speech pathology
- ongoing management
- referral back to local services as necessary.

Initial appointments are generally one hour in length, with follow up appointments scheduled for 30 minutes.

The multidisciplinary team is located together in The Children's Hospital at Westmead's outpatient clinic room. They use a videoconferencing platform to connect into the child's home. Local therapists, such as occupational therapists or speech pathologists, who have been engaged with the child are also able to join the consultation, virtually or in-person at the family's home.

Most consumers are three years or younger, although children aged up to 16 years are eligible for care. Within this cohort, the team mostly treat infants whose prognosis for oral feeding is yet to be determined.

Generally, new patients are initially seen by the clinical team in person, while a follow-up is provided virtually. Due to distance and family choice, rural patients are often seen virtually even if they are new to the service. Each child is considered individually to assess their appropriateness for virtual care based on clinical needs and logistics.

Children out of scope for the care provided by the multidisciplinary feeding team include children with:

- highly selective eating associated with sensory processing disorder and autism spectrum disorder
- autonomic nervous system disorders
- cerebral palsy.



Dr Jacqueline Dalby-Payne, General Paediatric Staff Specialist, SCHK, conducting a virtual feeding clinic consultation with the multidisciplinary team.

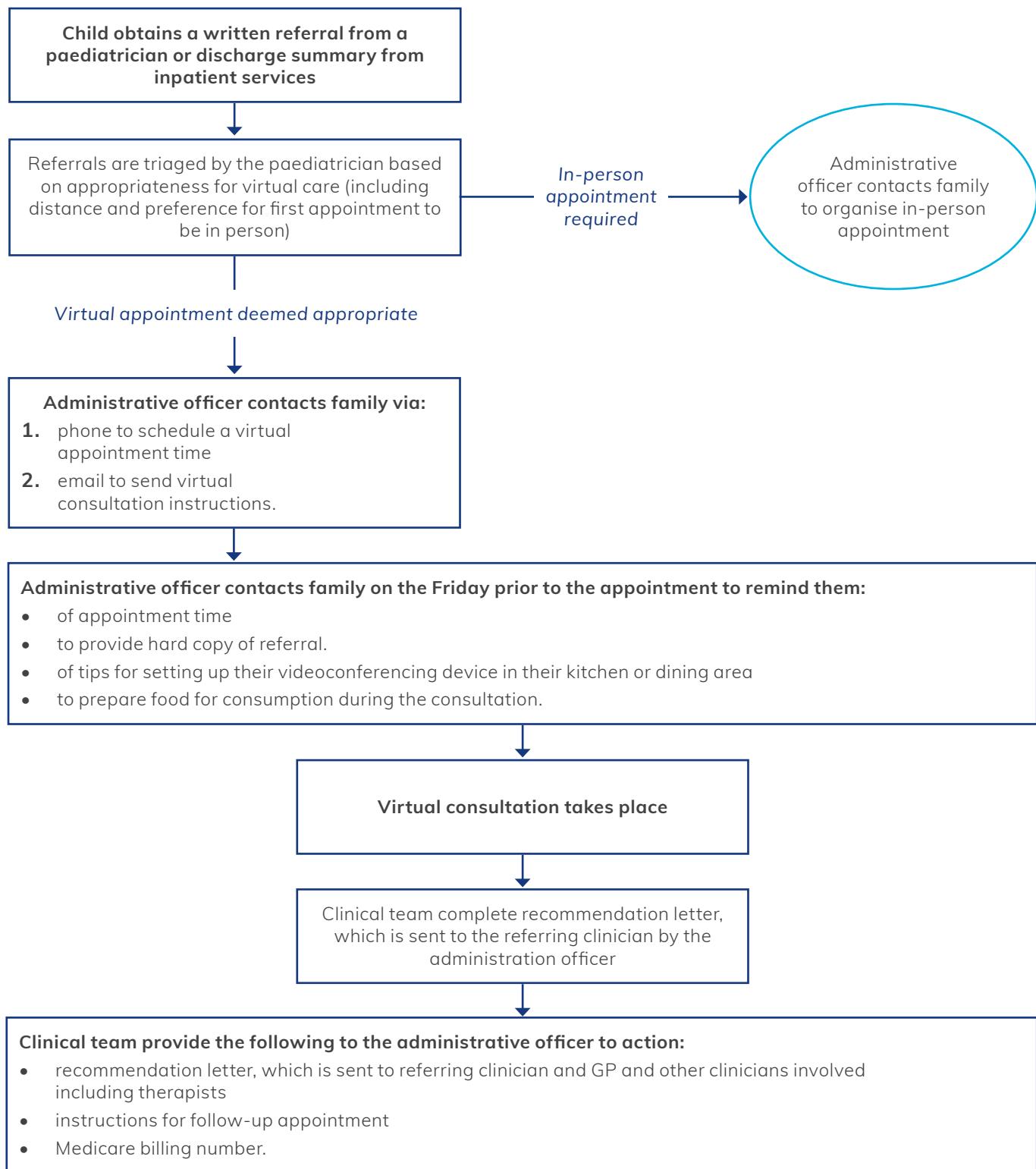
These children are referred to other clinical teams within SCHK's feeding and dysphagia service or more broadly across the SCHK, including referral to occupational therapists and behavioural psychologists.

In alignment with clinical protocols, consultations requiring investigations such as breastfeeding assessments or video fluoroscopic swallow studies, are also out of scope for virtual consultations. Should signs of aspiration or the need for an instrumental assessment arise during a virtual consultation, an in-person consultation will be organised.

Families are generally required to attend Westmead in person for these assessments, however in some cases it may be possible to conduct them locally. Families may then be able to attend follow-up appointments virtually.

Workflow diagram

The workflow diagram below details the referral and consultation process in more detail.





The multidisciplinary team during a virtual consultation

Case study

Aubrey* was staying with his grandparents in a regional city in NSW, over 120km from his family home. Aubrey had been experiencing feeding difficulties that were compromising his nutritional wellbeing.

Aubrey, his parents and grandparents, an Auslan interpreter (to support a parent who is deaf) and the feeding clinic team at Westmead connected to conduct a virtual follow-up consultation. In the past, all family members would have each had to travel almost five hours to attend the feeding clinic at Westmead in person.

The clinical team were able to monitor Aubrey's feeding progression and ensure his nutritional wellbeing, just as they would have in an in-person appointment. This saved a collective 20 hours of return travel for Aubrey's family, transforming an expensive and life-disrupting trip to Westmead into a one-hour conversation over videoconference.

* Name changed to protect patient privacy and confidentiality

Making it happen

This section outlines the key enablers and challenges identified by those involved in implementing this virtual care initiative. Addressing these factors effectively has been critical to successful implementation and these learnings can be used by other health services in the development of local models. The resources listed in the supporting documents section at the end of this report also supplement these learnings and have been identified throughout the following sections.

Local planning, service design and governance

The multidisciplinary feeding clinic transitioned to virtual delivery with minimal service design and process changes. The in-person clinic efficiently transitioned to 100% virtual delivery within the space of one week and maintained quality care for all children.

Local clinical governance

The multidisciplinary feeding clinic sits under two SCHN directorates:

- Medical and diagnostic directorate
- CARPA (Community, ambulatory, rehabilitation, population and allied health) directorate

The virtual clinic upholds the same clinical protocols and local clinical governance within these directorates as the in-person service. Various processes are in place to manage this:

- Informal team forums, such as weekly huddles, which include the multidisciplinary team, are held regularly as an opportunity to raise operational issues and possible solutions.
- Clinical issues are escalated directly to the relevant clinical program director from either the medical and diagnostic or CARPA directorate.
- Each directorate holds regular heads-of-department meetings, in which strategic priorities are discussed and escalated.
- A recent update to the Incident Information Management System (ims+) has allowed virtual care to be included as a category under which incidences may need to be recorded.

- Management of patient experiences and feedback is built into these clinical governance processes. Families are invited to provide feedback following virtual consultations informally and directly to the clinical team. Minor feedback or complaints are handled operationally and significant matters (such as improvement of processes) are escalated within the relevant governance processes.

Patient safety

The multidisciplinary feeding clinic assessment is reliant on families communicating a child's experience and feeding troubles accurately. It is, therefore, important to consider family dynamics and safety when determining the suitability for virtual consultations and while providing care virtually. The multidisciplinary feeding clinic team monitor children's safety during virtual observations, similar to how they would for an in-person clinic.

Additional considerations are made to keep children safe and mitigate risks that cannot be managed in the same way as in an in-person clinic, such as the risk of choking when no clinicians are present.



Alexandra Bartrop, dietitian and Laura Swift, speech pathologist, SCHN, conducting a virtual feeding clinic consultation with the multidisciplinary team.

Risk mitigation

- Before problematic foods are introduced, it is discussed with the family.
- If a medical issue arises during a consultation, the family is instructed to call an ambulance or to travel to their nearest emergency department.
- If the family is unable to do this, the clinical team will call an ambulance.
- If the family is in a remote location, the clinical team will provide step-by-step guidance for managing respiratory distress, such as choking risk.
- The protocol for concerning, non-clinical issues that may arise during a video consultation, such as disclosures or signs of domestic violence is the same as for in-person procedures.

Considerations for implementation

Various operational and workforce elements were identified as enablers for high-quality service provision during the clinic's rapid transition to virtual delivery:

- Dedicated administrative staff time is needed to enable sustainability and flexibility by closely engaging with families in preparation for virtual consultations. This not only enhanced family capacity and capability to engage with technology, but also supported the flexibility the clinic could offer, engaging with patients with minimal notice.
- The hardware set up within the feeding clinic, particularly the use of a multidirectional microphone, ensures each member of the multidisciplinary team can be easily seen and heard by the patient.
- The workflow process including referral, triage, and communication of recommendations back to local clinicians, enables children from across all of NSW to be referred to and treated by the multidisciplinary team. All virtual feeding clinic records are maintained in the SCHN eMR.

'Our administrative staff offer a trial with new clinicians or patients prior to the clinic if they require reassurance to manage the technology.'

'They have taken over booking appointments, chasing referral letters, sending out information regarding accessing telehealth and billings... this provides a more seamless process between the team and administrative side of the clinic with one admin staff member allocated to this process.'

DR JACQUELINE DALBY-PAYNE, GENERAL PAEDIATRIC STAFF SPECIALIST, SCHN

Building engagement

The multidisciplinary feeding clinic is enabled through collaboration. Virtual consultations occur at home allowing key partners to work together, with the consumer and their family at the centre of care. Engagement with local therapists, child and family health nurses, GPs and families act as a foundation of the service.

GPs and local paediatricians

- Children's GPs or paediatricians generally do not attend consultations but are able to assist with feeding tube management through patient education provided separately.
- Clinic letters are the key mechanisms for communication, providing the multidisciplinary report and recommendations for treatment.

Other clinicians

- Clinical partners, including local therapists engaged by families and stomal therapists from within SGNH, can collaborate virtually during video consultations to enhance treatment with additional expertise, support and guidance provided to families.
- Engaging with local therapists, community nurses, social care providers or Aboriginal health practitioners assists with building trust. It helps families maintain consistency in practicing recommendations between feeding clinic consultations.
- Prior to the virtual consultation, the team review a handover and discuss patients. Where required, email is used to collect further information.
- Following a virtual consultation, local therapists and the multidisciplinary team may remain in the virtual meeting room to conduct a case conference.

Consumer engagement

The key benefit of the virtual multidisciplinary feeding clinic is the ability to observe children in their natural environment. This means the service relies on children and families being able to engage comfortably from within their own homes. Various strategies have been used to foster a family's capacity to engage virtually.

- Upon notification of a virtual appointment booking, the clinic administrative officer provides the family with virtual consultation instructions and offers to provide more detailed assistance over the phone or send a hard copy of the instructions.
- The administrative officer can conduct a test call with the family prior to the appointment.
- Virtual consultations allow interpreters to easily join and support if the family is non-English speaking.
- Members of the SGNH Aboriginal liaison team may be engaged to support Aboriginal patients and aid with virtual consultations. This may include connecting with local Aboriginal health workers or practitioners to enhance local support for families.
- When a family's connectivity is compromised and does not appear to be sufficient for video and audio, the clinical team use a telephone call as a backup. The team can provide instruction over the phone to overcome technical difficulties or conduct the consultation (if clinically appropriate and the patient is comfortable with this).

Workforce and resourcing

Staffing model

The multidisciplinary feeding clinic team run clinics one day each week. They see approximately two thirds of their patients virtually. The clinical staff within the multidisciplinary feeding clinic team include:

- a staff specialist general paediatrician who attends all multidisciplinary feeding consultations
- several speech pathologists who cover the multidisciplinary feeding consultations on a rotating basis
- several dieticians who cover the multidisciplinary feeding consultations on a rotating basis
- administration support, which already exists within the service and coordinates the logistics of a virtual clinic.

The rotation of allied health team members is an important aspect of the staffing model. Taking part in the hybrid delivery of care creates opportunities for variation in service provision and up-skilling across modalities. Rotation of multiple team members also increases the team's ability to manage short term staff shortages due to sickness or emergencies.

Technology

- The virtual multidisciplinary feeding clinic uses a simple technology set up. Consultations occur on a NSW Health approved videoconferencing platform. At the feeding clinic end, the multidisciplinary team uses existing computers (videoconference enabled through the addition of a webcam, speaker and microphone) in outpatient consultation rooms.
 - The paediatrician sits closest to the screen to lead the consultation and record clinical notes in the eMR.
 - The speech pathologist and dietician are set back slightly from the paediatrician, still directly in the frame.
 - The multidirectional microphone ensures all team members are easily able to speak and interact with the patient.
 - The clinical team seek feedback from the family to ensure lighting and audio set up is correct.

- The family attending from home set up their personal device with a camera and stable internet connection, positioned with a view of the patient in a highchair at a dining table or in the kitchen.
- It is preferable for the family to have plates, utensils, and prepared food ready for consumption during the consultation. A device should be set up with a view of the family's kitchen, ensuring the clinical team are also able to observe the use of the pantry, fridge and food preparation areas. This provides additional useful data for assessments.
- It is preferable for the family to use a laptop, as they provide the most comprehensive and stable view of the feeding environment. However, tablets and mobile phones do provide a sufficient view if necessary.

Workforce training

The simplicity of the technology and clinical team set up means that very little training is required for clinicians providing the virtual multidisciplinary feeding clinic.

- The multidisciplinary feeding clinic team always attend virtual consults together in outpatient rooms. As such, staff who are familiar with the videoconferencing set up can train new colleagues.
- New staff are encouraged to undertake training modules to use approved videoconferencing platforms.

Considerations for funding

- Funding for the multidisciplinary feeding clinic sits under the block funding for the SCHN feeding and dysphagia service.
- Ongoing funding is supplemented by Medicare billing by the multidisciplinary feeding clinic team.
- There are no out-of-pocket expenses for families attending the clinic.
- Should families engage a private therapist to join the virtual consultation, private fees may apply. Families may be eligible to access funding to support this expense as a part of their NDIS plan.

Benefits of the model

Results

Early in 2020, the multidisciplinary feeding clinic smoothly transitioned completely from in-person care to virtual care during the initial COVID-19 outbreak. By August, clear evidence of success with the virtual clinic supported the service to offer a hybrid model. Clinics run one day each week and approximately two thirds of all patients are seen virtually.

Data collected post virtual consultations, over a two-month period from transitioning to a hybrid model of service delivery, demonstrated the following outcomes:

- non-attendance rate dropped from 16% to 8% over the same period in the 12 months prior

- 80% of families found virtual care convenient
- 40% of families were provided specialist care they would not have access to locally
- 80% of families would recommend virtual care to their families and friends.

Benefits



Improves access to multidisciplinary care no matter where children and their families live in NSW.



Enhanced assessment and treatment achieved with children being more readily observable in their natural home environment.



The flexibility offered by virtual consultations has reduced non-attendance rates and increased clinic efficiency.



Greater integration of care has been facilitated by collaboration with local therapy services.



Removes the burden of costs and inconveniences associated with travel and time away from work and school.



A child in their home preparing for a virtual multidisciplinary consultation

Opportunities

The collaborative nature of the virtual feeding clinic presents opportunities to continue to work with stakeholders (including consumers) to enhance service provision.

- Engaging other clinical disciplines from within SCHK to cater for a broader range of feeding issues could expand the patient cohort suitable for virtual care. For example, children with highly selective eating and autism spectrum disorder would benefit from having an occupational therapist and psychologist in the team.
- Virtual modalities offer potential further insights into children's feeding and other clinical indicators while at home. These may provide data (i.e. weight) to enhance treatment plans and outcomes.

Monitoring and evaluation

While formal monitoring and evaluation of patient outcomes has not been completed, the clinic has continued to collect patient appraisals following virtual consultations. These have consistently demonstrated:

- positive experiences in relation to accessing the feeding clinic without the financial burden and family disruption associated with travelling long distances, especially with young children.
- appreciation of virtual consultations which enabled care continuity during the COVID-19 pandemic, when disruptions such as travel restrictions or illness prevented families from attending the clinic in person.
- there is an opportunity to further evaluate the improvements in clinical outcomes and PREMs resulting from the effectiveness, efficiency, appropriateness of virtual feeding consultations.

Planning is underway for a formal evaluation to compare the outcomes and benefits of virtual care compared to in-person care.

References and links

[First 2,000 Days Implementation Strategy 2020-2025](#)

Supporting documents

[VC instructions for families](#)

[Recommendation letter template](#)

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Laura Swift Speech Pathologist, SCHN

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The Agency for Clinical Innovation (ACI) is the lead agency for innovation in clinical care.

We bring consumers, clinicians and healthcare managers together to support the design, assessment and implementation of clinical innovations across the NSW public health system to change the way that care is delivered.

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