Southern COCHLEAR IMPLANT PAEDIATRIC Programme

The Hearing House deaf kids talking

a firstvoice centre

Tele-CHAT Evaluation:

Evaluation of a nationwide tele-habilitation pilot

October 2013, Janet Digby

External Use

Contents

Background and purpose

Why Tele-CHAT?

The Hearing House (THH) and the Southern Cochlear Implant Programme (SCIP) provide services to children with permanent hearing loss. Permanent hearing loss among children is a relatively low prevalence condition, thought to affect between 2,500 and 5,000 New Zealand children and young people under the age of 18. Of these approximately 350 are thought to have received a cochlear implant.

As a result of this low prevalence, it can be challenging and expensive to provide services of an appropriate quality and intensity to all families in their local community. This problem, which is widespread, is exacerbated by New Zealand's relatively low population density which averages 13.63 people per square kilometre, or 31st lowest density of a list of 192 countries[i]. The four rural categories as defined by statistics New Zealand contain between one and 12.9 people per square kilometre.

There are only two cochlear implant programmes in New Zealand with one based in Christchurch and one in Auckland[ii]. Even with outreach services to main centres, significant numbers of children receiving services will not receive the optimum number of visits from centre professionals. This is particularly true of children in the Southern region, which is enormous.

As telecommunication technologies have improved and costs have declined, many professionals have become convinced that tele-medicine enables the provision of 'high quality healthcare in situations in which it would difficult or very expensive' to provide these services using face-to-face approaches[iii].

International experience

Internationally there is growing support for the use of tele-intervention with deaf and hearing impaired children. The view of the American Speech Language Association is that tele-practice is an appropriate model of service delivery to overcome barriers to access of services caused by distance unavailability of local specialists and impaired mobility[iv].

In Australia, tele-intervention has been used to support deaf and hearing impaired children since 2002[v] and is used by Royal Institute of Deaf and Blind Children, and through the federally funded 'VidKids' programme which includes all First Voice Centre (an alliance of centres focused on delivering early intervention services to deaf and hearing impaired children).

The Hearing House consulted these centres and found tele-intervention is now a core model for service delivery.

These centres noted that:

- Not all families have experience with technology and other options should be explored for them;
- Face to face time with families is vital and tele-services should come after a relationship is developed with the family. Even after a relationship is developed and tele-services are being delivered, face to face time with the family is crucial;

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[i] CIA World Factbook, February 2006, http://www.worldatlas.com/aatlas/populations/ctydensityl.htm, accessed on 12th June 2012.

[ii] New Zealand's land area is 268,670 square kilometres

[iii] McCarthy M, Muñoz K, and White KR. (2010) Teleintervention for Infants and Young Children Who Are Deaf or Hard-of-Hearing. Pediatrics 2010;126;S52

[iv] American Speech-Language-Hearing Association. (2009) Speech-language pathologists providing clinical services via telepractice: technical report. Available at: www.asha.org/ Rockville, cited by McCarthy M, Muñoz K, and White KR. (2010) Teleintervention for Infants and Young Children Who Are Deaf or Hard-of-Hearing. Pediatrics 2010; 126; S52.

[v] McCarthy M, Muñoz K, and White KR. (2010) Teleintervention for Infants and Young Children Who Are Deaf or Hard-of-Hearing. Pediatrics 2010; 126; S52.

- Technology always moves forward quickly and it is expensive to buy proprietary hardware – this hardware won't always work with other systems. Technicians are expensive; and
- Planning sessions with the caregiver and/or professionals can be valuable.

Tele Intervention and the development of Tele-CHAT

In March 2011, The Hearing House (THH) initiated a pilot scheme, called Tele AVT, to determine the effectiveness of habilitation via video-conferencing. The pilot was initially offered to families of children with cochlear implants under the age of six years who lived in regional and remote localities. Nine families were included in the pilot and, on average, came from areas with higher than average deprivation status. Children receiving services ranged in age from 18 months to six years.

Both THH and the Southern Cochlear Implant Programme (SCIP) believe that this type of service has significant application in New Zealand given the challenges of providing intensive specialised early intervention services to children in regional and remote localities. This led to development of a national pilot, called Tele-CHAT which aimed to evaluate this technology over a longer period and on a national basis. This pilot was named Tele-CHAT and ran from August 2012 to June 2013 throughout the country.

Key programme differences

When reading this report it is important to keep in mind some important differences between the THH and SCIP programmes. These are listed below:

	THH (Northern)	**SCIP (Southern)**
Age	At the age of five children of THH families transition to the school contract of the NCIP programme which is offered by Kelston Deaf Education Centre. While KDEC does do tele-habilitation these families and this service was not included in this evaluation.	SCIP staff see children from birth to the end of their school years
Distance	Smaller geographic area, no permanent base outside Auckland	Vast geographic area, base in Christchurch with a satellite in Wellington
Local educators	Work with some local educators but tend to do habilitation themselves in most cases	Work with some local educators to up-skill these professionals and rely on their work with families due to large distances involved

Summary

Purpose and process

Both THH and SCIP believe that tele-intervention services have significant application in New Zealand given the challenges of providing intensive specialised early intervention services to children in regional and remote localities.

This view has led to the development of a national pilot, called Tele-CHAT which aimed to evaluate this technology over a longer period and on a national basis. This pilot ran from August 2012 to the end of June 2013 throughout the country and followed on from a smaller trial conducted at THH.

Learning from other similar programmes elsewhere was incorporated into the design of the pilot programme.

Aims and operation

The pilot aims to improve access to auditory and spoken language intervention services for children in distant areas, improving the quality of services delivered by other local professionals to those children and to enable therapists to improve their skills in using such technology.

Families offered the chance to receive services in this way were either amplified (with a hearing aid or cochlear implant) or in assessment for a cochlear implant. Services were provided on up to a weekly basis for these children. Services were offered by six therapists directly with the family in their home, or through educator or school computers.

Some families were offered equipment (computers, web-cameras) for their home to enable them to participate in the Tele-CHAT pilot, while others had their broadband part or fully funded. Families with less toys and props in the house were also provided with boxes of toys or props through the pilot.

Evaluation

The evaluation focused a series of questions centred on a number of evaluation objectives. Information for the evaluation was collected from the therapists about each Tele-CHAT session. Parent whose child had received more than three sessions during the pilot, and through the local educators working with children on the pilot were also asked to provide feedback on their experience at the conclusion of the pilot.

A debriefing meeting was held with the therapists (and Neil Heslop as General Manager of SCIP) at the conclusion of the pilot to seek their overall views of the pilot programme.

Findings

24 families participated in the Tele-CHAT trial, from a good mix of locations and ethnic groups. Information was collected from therapists on 116 Tele-CHAT sessions and also from six parents and two educators.

Four families had some or all of their computer equipment and/or broadband needs met through the pilot programme and where appropriate, families in both programmes were provided with toy boxes or ‘prop’ boxes to aid therapy.

Both SCIP and THH will be offering Tele-CHAT services on an ongoing basis as a core tool with selected families.

Key findings of the evaluation included:

- Crucially, a significant number of additional sessions (SCIP=95, THH=63) were delivered to families as a direct result of the Tele-CHAT pilot programme. Clearly Tele-CHAT improved access to services in many cases. This is significant as the frequency (along with the quality) of intervention is a known correlate of improved outcomes for deaf and hearing impaired children.
- Therapists' reports suggest that between 80% and 90% of sessions were able to contribute to improved outcomes for the child. Things like poor sound quality, DNAs[vi] and drop-outs were the most commonly cited reasons for sessions not contributing to improved outcomes. As a starting point this is a pleasing figure, and would be expected to rise over time as therapists become more experienced working with families through Tele-CHAT and as ultrafast broadband is rolled out around the country.
- Session reports were completed on an average of 3.4 sessions (Southern) and 4.8 sessions (Northern) for each of the families receiving services through Tele-CHAT.

Challenges

The pilot encountered three main challenges. Suggestions on how to manage each of these challenges is included later in this report.

1. Managing technology issues to ensure the sessions contribute to improving outcomes for the child
2. As with more traditional face-to-face habilitation services, some families had difficulty engaging with services.
3. Working with educators is an important part of improving outcomes for children who live outside the main centres

What's next for Tele-CHAT?

As both programmes wish to offer Tele-CHAT on a regular basis to selected families some suggestions are provided in this report to ensure improvements in service continue.

These include the ongoing collection of feedback and ways to share learning between SCIP and THH and other ideas for further development of Tele-CHAT. Testing of new technologies which could improve sound and picture quality and enable recording of sessions for viewing by the parent or educator are also described.

[vi] DNA's: Did not attend – where the family did not come online for their session and did not contact the therapist to let them know they needed to cancel.

Aims and operations

The aims of the Tele-CHAT pilot were as follows:

- Improved access to services for any families for whom travel to therapy (or for therapists to travel to the family) is difficult due to distance or for other reasons (e.g. transport, working hours of family)
- Improved outcomes for children living away from the centres
- Improved quality of services (and coordination of these services) delivered by other professionals to families and their children
- Enable the therapists to work effectively with families and their children using Tele-CHAT, and feel confident using the technology
- Improved capacity and skills among staff for using video-conferencing for other purposes
- Improved use of therapists time – less travel and more contact hours
- Build capacity and up-skill AoDCs, RTDs (and other professionals) to enable them to work more effectively with families
- Build relationships and trust with local educators

A protocol for the pilot was established with input and support from the Ministry of Education. Placement was limited to twenty families at any one time and children/families would need to be:

- optimally amplified
- committed to up to a weekly service as family needs and programme resources dictate
- committed to spoken language

The pilot would include both children with cochlear implants and hearing aided (HA) children. Where possible, the local educator would be involved in service delivery.

Families received up to a weekly service with one of six therapists involved with the pilot programme. Some sessions alternated between a parent(s) only session for planning and a habilitation session with the child/family and/or the local educator. Initiation of Tele-CHAT would generally not start prior to 2-3 months after switch-on, to ensure families had already had some face to face sessions.

Monthly team meetings were held with clinicians attending along with centre management where possible plus a representative from the Ministry of Education.

These meetings were conducted via Skype, with the odd meeting moving to teleconference where the technology was proving difficult with a number of connections. The purpose of these meetings was to share learning about provision of services in this way, to track progress and challenges for the project, and to keep the Ministry of Education informed and involved with the project.

Infrastructure and support

Equipment sourcing and supply and internet access

2 families in the Southern Programme and 2 families from The Hearing House were provided with some or all of their equipment and/or broadband needs via the pilot programme. This allowed the family to access Tele-CHAT services from their home. This support included providing for additional needs such as a webcam, or in a few cases provided a computer and associated peripherals to allow the family to receive services via Tele-CHAT.

Toy boxes for families without items available

Where appropriate, families in both programmes were provided with toy boxes or 'prop' boxes to aid therapy.

Delivery approaches

A number of delivery approaches have been used with families in the Tele-CHAT pilot. These are outlined in the table below. The last option, which was originally being utilised by THH is not currently being used and is greyed out.

Option	Pros	Cons	SCIP	THH
Skype with family*	• Family don't have to leave home • Family, including other siblings may get benefit from donated computer and or internet connection • Free to use once equipment and broadband in place • Can be acceptable quality sound and picture • Sessions can be booked at any time convenient to the family	• Can have cut-outs on Skype • Family will need to have some understanding of how to use a computer and may need some technical support • Some families may DNA more regularly than with face to face sessions • May be a cost to SCIP/THH of equipment and internet connection or increased data plan for family • Uses a fair amount of data, sometimes necessitating data plan supplements	Yes	Yes
Skype with family through educator	• Family may not need to leave home • Can strengthen links with local professionals • Can help up-skill local professionals and may be used for other children • Free to use once equipment and broadband in place • Can be acceptable/good quality sound and picture • Sessions can be booked at any time convenient to the family • May reduce DNA rates	• Some local professionals are not allowed Skype on their computers • Can have cut-outs on Skype • May be a cost to THH/SCIP of equipment and internet connection or increased data plan for family • May be hard to access sessions during holidays	Yes	No
Skype with family through school	• Often very convenient for family • Can help strengthen ties between school, family and local educators • Can help up-skill local professionals • Can be acceptable/good quality sound and picture • Free to use once equipment and broadband in place • Sessions can be booked at any time convenient to the family	• Can have cut-outs on Skype • Sessions need to be booked at a time convenient to the local school • May be hard to access sessions during holidays • Uses a fair amount of data, sometimes necessitating data plan supplements • Can be difficult to retain quality of picture and sound with more than one participant	Yes	No (KDEC – Yes)
Skype with educator and child	• Can help strengthen ties between therapist and local educators • Can help up-skill local professionals • Sessions can be booked at a time convenient to the educator and child, family scheduling less tricky	• Can have cut-outs on Skype • Does not focus on the parent/caregiver and their learning • May be hard to access sessions during holidays • Some local professionals are not allowed Skype on their computers	Yes	No
Skype with	• Can be booked at a convenient time • Free to use	• Can have cut-outs on Skype • Does not focus on the parent/caregiver and their learning	Yes	Yes

educator	• Can be acceptable quality sound and picture • Good for providing training and support and discussing cases	• May be hard to have sessions during holidays • Some local professionals are not allowed Skype on their computers		
Educator with family	• Can be useful when the educator has the skills and confidence to 'go it alone' • Can be booked at a convenient time • Free to use • Can be acceptable quality sound and picture	• Can have cut-outs on Skype • Does not focus on the parent/caregiver and their learning • May be hard to have sessions during holidays • Some local professionals are not allowed Skype on their computers	No	Yes
GSE video conferencing	• Very good sound and video quality • Can help strengthen ties between THH/SCIP and GSE • Demonstrates collaborative approach to GSE • Free to SCIP/THH and to the family	• Sessions need to be booked at a time convenient for GSE • Parking at GSE in Auckland can be an issue	No	No

Evaluation Structure

The evaluation of Tele-CHAT was conducted primarily through the collection of information about each Tele-CHAT session (by therapists) and about the overall Tele-CHAT experience (by Educators and Parents/Caregivers). Minutes from regular Tele-CHAT meetings were also used for materials, as was information provided by the clinicians in a set of clinical debriefings held in August 2013.

Only families who had participated in three or more Tele-CHAT sessions were asked to provide feedback for the evaluation.

A decision was made by the clinical team that they did not want to track assessment results for children involved in Tele-CHAT. In part this decision was made as the assessment protocols differ between the two programmes, but also as they felt this may not be a good measure of effectiveness for Tele-CHAT due to the short period of the pilot programme and as there was no control group which could be used as a comparison.

An evaluation framework was developed which considered the following aspects of Tele-CHAT. Findings under each of the evaluation questions can be found in Appendix One on page 21.

Objectives	**Evaluation Questions**
Ensure families are supported while they are receiving Tele-CHAT, and able to achieve improved clinical outcomes	• Overall, what's your experience of receiving services via Tele-CHAT? • What are the benefits? (Probe: Do you feel more supported? In what way?) • What aspects of the service could be improved? • Do you feel better equipped to maintain habilitation with your child in between teleconference sessions? In what way?
Enable the THH & SCIP therapists to work effectively with families and their children using Tele-CHAT, and feel confident using this type of practice	• When using Tele-CHAT do therapists achieve the same clinical and relationship outcomes as if they were working face to face? • When using Tele-CHAT, do therapists develop the same types of relationships with families as if they were working face to face? • What's the therapists' view about the effectiveness of working with families and their children via teleconferencing? • How are they finding it? • Is there anything you find difficult? How could this be improved? • How have you adjusted to using the technology? • How has access to Tele-CHAT programme improved the frequency of service able to be provided to the family?
Build capacity and up-skill AoDCs (and other professionals) to enable them to work more effectively with families and their children.	• Are AoDCs and other professionals better able to evaluate auditory verbal needs, plan and set goals in consultation with the family, and assess progress towards goals and outcomes achieved, as a result of attending support? • Do AoDCs and other professionals feel supported by therapists in their professional development? In what way? What could be improved? • Do all parties present at the video conferences participate in goal identification for the family and child? What facilitates or hinders this process? • Are AoDCs improving their skills when working with children and families?
Improve capacity and skills among staff for using video conferencing for other purposes	• Would the therapists feel confident to use the technology for other purposes? • Are they doing this?
Improved use of therapists time – less	• Do the therapists feel happy with the way they are spending their time – less travel? More therapy?

Objectives	Evaluation Questions
travel	• Does their Tele-CHAT time feel good for them? Satisfaction?
Build relationships with and trust from local educators	• In your view, do you have a stronger relationship with your local support professional than previously? What are the benefits of this? How could it be improved? • How do local educators feel about Tele-CHAT and the relationship?
Enrollment	• How successful has the pilot been in enrolling families? What have we learnt about this process? How can we better inform new Tele-CHAT families in future?
Engagement	• Frequency of sessions, before and after? • Parent engagement?

Families receiving services via Tele-CHAT

24 children and their families received services via Tele-CHAT during the course of the pilot programme, with 18 currently receiving services. An additional 9 children potentially are on the list to receive tele-habilitation services within the coming year.

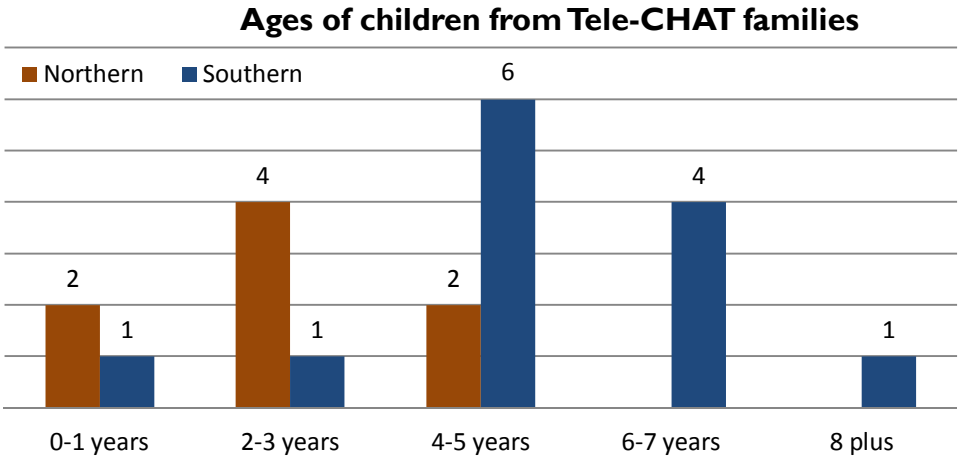
There was a mix of ethnic groups represented on the pilot, included a number of Maori. One Indian family was also included in the trial, albeit for a short period of time.

	Indian		Maori		NZ European		Total	
	%age	Number	%age	Number	%age	Number	%age	Number
THH	9	1	27	3	64	7	100	11
Southern	0	0	38	5	62	8	100	13
Grand Total	**4**	**1**	**33**	**8**	**63**	**15**	**100**	**24**

The majority of children receiving services via Tele-CHAT had one or two cochlear implants, while two children enrolled on the programme were in assessment (Northern). One child from each programme had hearing aids.

Distance was the main barrier to accessing service for all families, although in some cases large family size, lack of support from local educators and the general busy nature of the family were also cited as barriers to access, each applying to one family.

Children from families within the Northern region are younger, as those turning five transfer from the service, and begin to receive services from KDEC, including some delivered via systems such as Skype.



Families included within the Tele-CHAT pilot reside in many locations around the country, as seen in the diagram, at left:

A good mix of families from around the country participated in the Tele-CHAT pilot programme.

The majority of these families were from the North Island, receiving service either from The Hearing House or from The Southern Cochlear Implant Programme.

Most areas listed on the map to the left indicate only one family, while larger bubbles indicate two or three families receiving services via Tele-CHAT in that location.

While both SCIP and THH were successful in enrolling families in the pilot, both encountered a few families who were invited to participate in Tele-CHAT but for whom this approach wasn't a good fit.

Neil Heslop, Manager of SCIP, was surprised more SCIP families didn't take up the offer of coming on to Tele-CHAT.

There were a number of reasons families offered the chance to participate did not receive services through Tele-CHAT included:

- child full-time at daycare while parents are working fulltime
- child unwell
- problems getting the technology working and family's lack of computer skills
- intensive intervention by another service provider where a child has additional needs
- regular and superlative support from local AODC

Findings

The general tone of feedback received from all quarters was positive and both THH and the SCIP would like to offer Tele-CHAT services for families on an ongoing basis.

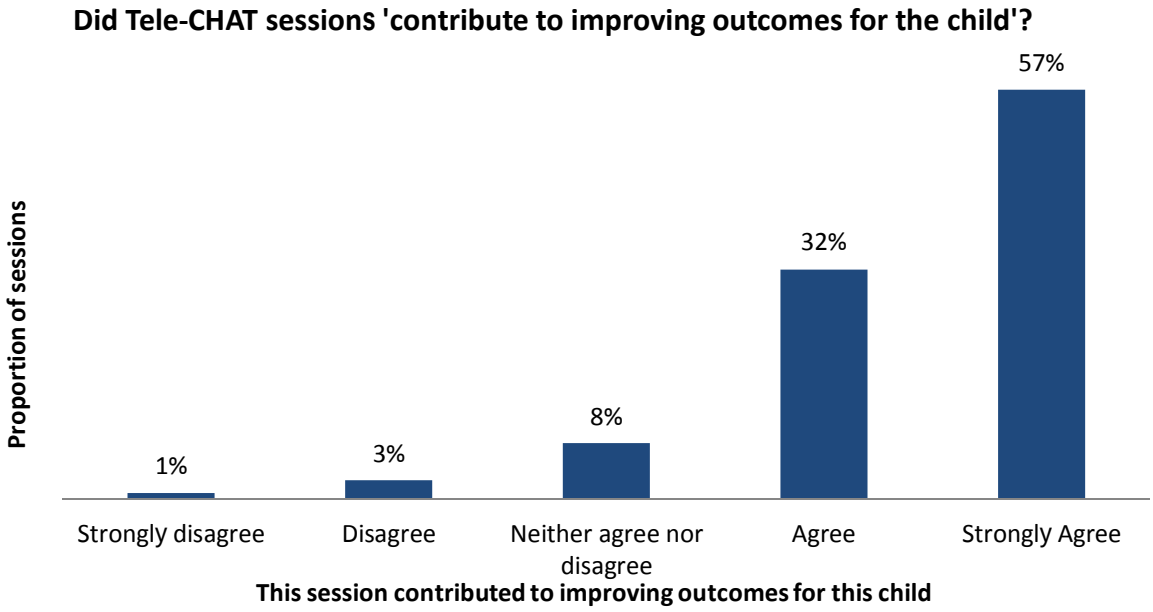
All seven of the families (SCIP=2, THH=5) who responded to the evaluation questionnaire said that they would like to continue with Tele-CHAT[vii] and therapists from both programmes believe that Tele-CHAT is now an important part of their service offering for families. Both the educators who responded to the questionnaire (SCIP=2) had very positive views of the pilot programme.

A mind-map of benefits of Tele-CHAT identified by therapists, parents and educators within the evaluation are found in Appendix Two on page 21.

Sessions

At least 116 Tele-CHAT sessions were held during the pilot, with most being between 40 minutes and one hour in length. 89% of the 116 sessions which were reported on during the pilot programme contributed to improving outcomes for the child. Reasons for sessions not contributing to improved outcomes included:

- Technology issues (e.g. problems with sound or picture quality, battery issues, connection issues)
- Child was unwell
- Interruptions during the session at the family's end[viii]



[vii] And that Tele-CHAT worked for them and their family, where they answered this question on the Tele-CHAT evaluation form

[viii] Some sessions were cancelled due to the family not being available online at the scheduled time. By and large these were not counted as sessions and are not included in these figures.

Number and length of sessions

A number of variables are correlated with better outcomes for deaf and hearing impaired children. These include the age at which the hearing loss was identified, the degree of hearing loss, the age at start of intervention and the quality and intensity of intervention services provided. As a result, one of the items measured for this evaluation was the number and length of sessions which were provided to families under the Tele-CHAT pilot, in comparison to both the ideal length and to the number of sessions the family would have received had Tele-CHAT not been available.

For families receiving services via Tele-CHAT, session reports were completed by the therapist after each session. An average of 3.4 sessions were recorded for families receiving service via Southern and 4.8 sessions for those receiving services via Northern. Ideal session lengths were specified for each child by the therapist. 89% of sessions in the Northern region met the ideal length as did 82% of those in the Southern region.

Crucially, a significant number of additional sessions (158) were delivered to families as a result of the Tele-CHAT pilot programme. These sessions can be seen below. Three children in the each programme received ten or more additional sessions as a result of Tele-CHAT.

Seen another way, therapists in each programme were asked to estimate the frequency of sessions before Tele-CHAT, the ideal frequency and the actual frequency for each child, all on an annual basis.

The therapists estimated that children who would be receiving Tele-CHAT were receiving on average only 21% of their ideal number of sessions per annum. This was estimated to rise to 74% once Tele-CHAT was introduced.

Therapists were asked to rate how much they agreed with the statement that the session 'contributed to improving outcomes for the child'. Ratings were provided for each session on a scale from 'strongly disagree' to 'strongly agree'. Between 80 and 90% of sessions were classified by therapists as 'agree' or 'strongly agree' with respect to how they contributed to outcomes for the child.

Benefits

Tele-CHAT sessions require a different type of therapy to those which are face-to-face.

SCIP therapists noted that Skype sessions can take at least as much planning as face-to-face sessions, while THH therapists felt they couldn't plan too much for these sessions as they need to be spontaneous. Both teams noted that the sessions require more of the parent/caregiver as they need to take the lead during the session and as the child is less able to use non-verbal cues to communicate with the therapist.

In summary, key benefits associated with providing Tele-CHAT services include:

- **Improved equity of access (more sessions) for children living some distance from the centres**

  "We like Skype because we live in a rural area. So it helps us to develop [child's] speech about travelling to Auckland." Parent

  There was nothing this educator could suggest to improve Tele-CHAT services in future *"not really - this service in its current form provides a valuable opportunity for all parties to make input regardless of distance. Really great."* Educator

  "Good for maintaining rapport and knowing where they are at – when they come here we don't know if we are seeing the best of them." Therapist

  Realised in session that a child's MAP wasn't working and was able to get that fixed. Not sure how long it would have taken without Tele-CHAT." Therapist

- **Opportunities for discussion and questions with parents –** A number of therapists noted that more frequent sessions with parents living outside the centres has meant they can have different conversations with the parent, about what is worrying them, challenges they are facing or more detailed questions than when they see them on less frequent face-to-face visits:

"[There are] more opportunities for parents to ask harder questions as [there are] more sessions." SCIP Therapist

"Better than talking on the phone as for some reason [we] could chat more freely. And knowing you have an allocated time period didn't feel like you're holding the therapist up (so we could also chat more freely). Therapist able to demonstrate visually some exercises which was really valuable.'' Parent

- **Improved skills and experience of local educators** who benefit from training and support provided through Tele-CHAT

  "It has been wonderful having immediate feedback and suggestions for future planning and also encouragement that what you are doing is benefitting the student! Being an RTD can sometimes be an isolating role but being able to share the lessons via Skype, on a regular basis, has meant that things that sometimes you don't pick up on, as you are too focussed on the 'job at hand', can be observed and noted by another person. I particularly like that I'm given ideas and suggestions for future planning and I know what to be moving my student onto next. It is also very rewarding to move from one session to the next when the very supportive and encouraging [therapist] from SCIP gives comments on the obvious progress that is being made by the student. Educator

- **Less hassle and travel for families** – families now have more choice in how they spend time which is no longer used driving or flying to remote destinations. Therapists noted that families were often tired after travelling to the centre and it wasn't always easy to understand progress of the child under these circumstances.

  For example, one family in the Southern region needed to travel three hours each way to visit the Centre in Christchurch.

- **Increased productive time for therapists** – therapists now have more choice in how they spend time which is no longer used driving or flying to remote destinations.
- **Improved relationships and communications** – parents, therapists, educators, teachers, teacher aids and other professionals can all be more easily involved in setting goals and monitoring progress. More frequent contact with families helps build strong relationships.

  "One little girl we do Skype over breakfast and you see normal life and talk about their worries and concerns." Therapist

  "I admit I was anxious about regularly Skyping but it has been a very rewarding and pleasant experience and one which benefits the students as immediate suggestions, tips, hints and encouragement was received which is so helpful for future planning. Thanks!" Educator

  "One of the beauties of Skype is that families do use it and kids are comfortable with it. Kids do enjoy the concept of seeing themselves and us. Kids enjoy sharing their life." Therapist

A mind map of benefits identified by therapists, parents and educators can be found in Appendix Two on page 22.

Managing key challenges

Tele-CHAT can be more challenging with families who are harder to engage, those with poor attention spans, children with poor communicative intent or additional communication disorders, some (but not all) younger children and with families who have less reliable internet connections.

The pilot encountered three main challenges. These are described below along with ways to manage these issues:

1) **Managing technology issues to ensure the sessions contribute to improving outcomes for the child**

This item applies to many families on Tele-CHAT. Suggestions for how to minimise technology issues include:

- Face-to-face sessions cannot be replaced and relationships need to be built before Tele-CHAT services begin

  "Fantastic opportunity - thank you. So good to be able to have AVT via Skype. Have to say though that if it was my first child I would probably prefer a combination of both - maybe more face-to-face - even with the distance and though I feel very comfortable now with Skype. Love it. Thank you!" Parent

- Distance or remoteness doesn't necessarily correlate with the quality of the connection
- Sometimes it is better to bring in an IT expert to address issues (particularly on donated computers where they can use LogMeIn) as this can fix problems more quickly, meaning less downtime for the family and less wasted time for the therapist trying to address issues which can be complex
- Timing of sessions may be important for the quality of the connection, in some cases – some times are slower than others e.g. after school.
- Be aware of data pack terms and conditions, particularly expiry dates
- Check with school of family to see if they have any ideas. One therapist noted a parent said they like the email summaries following each session - these help her to know what to tell other family members and also keep the goals in her mind during everyday interactions
- Check positioning of webcam before sessions – ensure the face is large on the screen, light is on the face not behind and that microphones are well placed
- Expect some technology issues and talk to the family about how you will both manage these
- Skype isn't great when correcting errors in speech. Some children may benefit from having time with an SLT on the ground in their local area
- Sending a summary of the session and goals to parent(s) and AODC[ix] can be useful

2) **How best to work with *hard to engage* families**: Some families have difficulty engaging with face-to-face services. These families often have the same issues engaging with Tele-CHAT services. Suggestions from the team for working with these families:
   - Face to face sessions can't be replaced and relationships need to be developed before Tele-CHAT services begin
   - Residential attendance can help families to engage with services (THH offers residentials for selected families each year)

[ix] A number of other challenges may reduce the family's ability to engage in session. For example, sessions booked when a child comes home from school may mean the child is not at her/his best. Therapists suggest discussing session timing with families and also to be prepared to deal with distractions which are not in the therapist's control – e.g. phone ringing at the family's home. It is also worth preparing for conversations regarding ideal session length as some families may initially feel weary of reductions in the length of therapy sessions.

"Kids can be really tired at the end of the day after school/daycare. Some moved to school time as kids in a better place." SCIP Therapist

- Text reminders can be used to reduce the DNA rate for some families – Some families may find it more difficult to remember a Tele-CHAT appointment compared with a face-to-face appointment
- Offer alternative session times for families whose schedules mean it is hard to find the time for Tele-CHAT sessions (e.g. breakfasts)
- Have patience and be persistent - THH found that this worked with two families who were hard to engage, but are now beginning to have regular sessions after six or more months
- Occasionally sessions may be offered outside work hours to accommodate fathers.

3) Working with educators

Local educators, particularly AoDCs are important to the delivery of this service and as mentioned earlier may be involved in a number of ways within the Tele-CHAT pilot; e.g. directly involved in Tele-CHAT sessions from home, their local office or preschool.

Not all educators are initially open to using new technology such as Skype, the Ministry have firewall issues which prevent use on MOE machines, and not all educators have the skills or capacity to provide appropriate support to individual families.

Suggestions about how best to work with educators include:

- Keep encouraging MOE to address firewall issues so their staff can use video-conferencing services such as Skype to keep in touch with families and participate in sessions with families and therapists via Tele-CHAT
- Encourage individual educators to try new technology such as Skype during visits and phonecalls
- Work with local educators using the new technology to build their skills and confidence

"The biggest hassle from me was setting up Skype at one of my schools, as it involved me having to meet twice with IT specialists get permission and then my laptop coordinated with that particular school's provider etc. then of course we were issued with laptop upgrades and this had to all be done again. Argh!" Local Educator

What's next for Tele-CHAT?

Ongoing feedback

Now that the pilot programme is completed, and both programmes wish to offer Tele-CHAT as a regular part of service, what might SCIP and THH consider to ensure their programmes continue to improve?

Some kind of feedback loop from parents and educators would seem useful, perhaps by adding a few short questions to both organisations annual feedback surveys. In collecting this information the organisations could ensure the services is meeting the needs of these groups, and identify any issues in a timely way.

Sharing learning

Another way to keep in touch with how Tele-CHAT services are developing in the organisations would be to add a regular Tele-CHAT item to the agenda of the regular programme meetings and/or by video conferences, say once or twice a year. Learning could be shared in these meetings and ways of managing challenges for this relatively new type of service.

Other ideas

Other ideas which the teams may wish to consider include alternatives to Skype which provide improved sound and video quality, methods for videoing sessions and providing these to families.

New options to be considered	Details	Costs	When
Reducing outcome inequalities	'Are there ways in which Tele-CHAT may be increasing rather than decreasing inequalities?' 'How can the teams and compensate for any unintended negative consequences of offering Tele-CHAT to some families and not to others?' For example, is there a way that educators can be more involved in sessions (taking over the technology aspect) so families can be involved in Tele-CHAT. How could families who don't have any computer skills be included in Tele-CHAT? What other options could be considered for this group of children, who are also likely to be economically disadvantaged?	Unknown	Examine in 2013/4?
FaceMe/ GoTo Meeting/ VSee/ Microsoft Lync –	FaceMe is a local company with good support and can record sessions Can invite multiple connectors which would be good for education sessions with professionals and maybe IEPs? Minimal data usage compared with Skype – may mean less data plan additions need to be funded by THH/SCIP Can be used on any machine or device with browser capabilities including iPad and Android devices No need for software to be loaded – can then be used on educators computers GoToMeeting requires a meeting to be established by the organiser and a link sent to participants Microsoft Lync is a product which Hear and Say are moving towards	Requires monthly payments to subscribe to service (e.g. US$9 per user per month)	Examine in 2013/14? Janet tried FaceMe in 2012 but didn't find picture or sound quality to be an improvement over Skype – could be worth another try? Also Jill tried Any Meeting but found speech not as clear and time lag between picture and sound
Recording Skype sessions	A number of options exist, one licence per machine. These files do take up storage space. Would need to be clear about the reasons for recording sessions. www.supertintin.com www.imcapture.com/IMCapture-for-Skype/ www.talkaide.com	Cost approximately US$30 per month per licence	Examine in 2013/4?

	www.vodburner.com (now with smaller file sizes)		
Phone network	With the introduction of 4G, phone network access to internet may become viable	Higher cost than fixed line but expected to drop over time	Examine in 2013/4?
Examine ways to further improve continuity between THH and KDEC tele services?	Perhaps THH could meet with staff at KDEC to discuss how this can work?	Low	Examine in 2013/4?
Ongoing communication with MOE staff	Schedule regular meetings with and communications for GSE staff, particularly to continue to encourage them to work on removing barriers to Skype use for educators		Examine in 2013/4?
Joint presentation with MOE, SCIP and THH	Examine which upcoming conferences could be relevant and see whether SCIP/THH and educators would like to do a presentation?	Low, particularly if we can find a conference in Auckland?	Examine in 2013/4?

Appendix One: Evaluation findings

This appendix provides the reader with more detailed information about how each option meets with the objectives agreed for the project.

Objectives	Evaluation Questions	Conclusions
Ensure families are supported while they are receiving Tele-CHAT, and able to achieve improved clinical outcomes	• Overall, what's your experience of receiving services via Tele-CHAT? • What are the benefits? (Probe: Do you feel more supported? In what way?) • What aspects of the service could be improved? • Do you feel better equipped to maintain AVT with your child in between teleconference sessions? In what way?	• All families receiving Tele-CHAT services want these services to continue after the end of the pilot, a good indication of the pilot's success • See Appendix Two for a list of benefits described by families, therapists and educators • Parents noted they felt supported, better able to focus on goals set and motivated by the regular sessions • Of the limited number of responses from educators, one noted explicitly that they felt more supported, while others who didn't provide formal feedback also noted the same • Families noted that they felt positive about Tele-CHAT and that receiving service in this way was very convenient • Reduced travel time for some families and child more engaged as they didn't have to get up early to travel to the appointment • Sessions more frequent for most families compared to before the pilot
Enable the THH therapist to work effectively with families and their children using Tele-CHAT, and feel confident using this type of practice	• When using Tele-CHAT, do therapists achieve the same clinical and relationship outcomes as if they were working face to face? • When using Tele-CHAT, do therapists develop the same types of relationships with families as if they were working face to face? • What's the THH therapists' view about the effectiveness of working with families and their children via teleconferencing? • How are they finding it? • Is there anything you find difficult? How could this be improved? • How have you adjusted to using the technology?	• While the period for the pilot isn't long enough to measure outcomes and any differences between approaches, therapists noted that the Tele-CHAT session enabled relationship building where this wouldn't have been to the same extent without Tele-CHAT. However they are well aware that families would ideally have been receiving face-to-face services before the start of Tele-CHAT, and that face-to-face sessions throughout service cannot be replaced. • In a small number of cases, families who were difficult to engage did not have good engagement with services before they started on Tele-CHAT • SCIP/THH believe Tele-CHAT is one option for service delivery which will work for some families – and that this option is better than the alternatives in many cases (e.g. travel to Christchurch/Greenlane or Wellington) • Therapists note that the style of therapy needs to shift to accommodate this approach – a skills transfer session is planned to share this learning with other staff from inside and outside the organisation which may benefit from this knowledge. They also noted the benefits of Tele-CHAT sessions, in that the parent needs to be more active and that this can empower them in their work with the child. • Technology issues will always exist, knowing how to manage these is important, including having alternative ways to communicate • Therapists are all now comfortable with using the technology,
Build capacity and up-skill AoDCs (plus other professionals) to enable them to work more effectively with families and their children.	• Are AoDCs and RTDs better able to assess needs, plan and set goals in consultation with the family, and assess progress towards goals and outcomes achieved, as a result of attending THH training? • Are AoDCs satisfied with their training and practice opportunities? What worked well and what didn't? What could be improved? • Do AoDCs feel supported by THH therapists in their professional development? In what way? What could be improved? • Do all parties present at the video conferences participate in goal identification for the family and child? What facilitates or hinders this process? • Are AoDCs improving their AVT skills when working with children and families?	• Educators with report being better equipped to support parents through providing hands on therapy • Working with families using principles of AVT is still a big learning curve for some educators but there are now more connections between the therapy teams and these professionals • A number of professionals report feeling supported (either formally or informally) and are aware their skill level is increasing • Therapists report a good sense of 'team' around individual children and their families, working together to set goals, understanding these goals and monitoring individual children's progress • Often these local professionals are isolated professionally from their GSE colleagues and they have appreciated working more closely with therapists • AODCs and RTDs have praised the Tele-CHAT pilot as is has built their confidence in working with hearing impaired children who are learning to speak (as opposed to those who sign) • This type of service model is now something MOE are thinking about – they are looking at ways to remove barriers to using V&VOIP services • The therapists report that some local professionals now contact them via Skype to discuss cases and practice
Improve capacity and skills among THH staff for using video conferencing for other purposes	• Would the therapists feel confident to use the technology for other purposes?	• Therapists now feel comfortable using Skype for a number of types of sessions • One therapist reported they would like to build further skills in helping the family troubleshoot from their side, when technology issues arise
Improved use of therapists time – less travel	• Do the therapists feel happy with the way they are spending their time – less travel? More therapy? • Does their Tele-CHAT time feel good for them? Satisfaction?	• The therapists involved in the pilot note they are happier with the way they are spending their time, with less travel and more time delivering services to children • In the case of THH this means less trips to Hamilton and better resource allocation while Southern note they are able to focus on what counts for an individual child, whether it be focusing on working with the family or training the local professional and this often involves more sessions than their visits alone. For example, one family in the South Island now has less visits to Christchurch, saving three hours each way in travel time
Build relationships with from local educators	• In your view, do you have a stronger relationship with your local support professional than previously? What are the benefits of this? How could it be improved? • How do local educators feel about Tele-CHAT and the relationship	• Reports from some therapists and educators suggest the quality of the relationships has improved due to the Tele-CHAT pilot • Local educators and engaged with families and with therapists and have a strong focus on building their skills and confidence – they report positive experiences from the pilot and see the value in having this approach available for families

Appendix Two: Benefits of Tele-CHAT