 

**Keeping in Touch (KIT):**

**Face to face with the speech therapist via the internet**

**Project Evaluation: Brief Summary Report**

Helen Poole , Sheena Round, Paul Fergus, Clare Hanlon

Claire Bimson, Lois Hatfield, Ursula McCormick, Louise Simcock,

Catharine Barley, Cathy Webb, Pam Monti,

Ricky Wallace & Carolyn Lees

**Introduction:** This report was commissioned to evaluate the use of videoconferencing via Skype© in the delivery of Speech and Language Therapy. Use of technology in health care has risen exponentially in recent years alongside the increased demand for healthcare services. In a climate of rising healthcare costs innovations in the use of technology may provide a cost effective means of interacting with clients (van den Berg, 2012). Programmes such as Skype© provide a means of making sound and video calls between computers (including tablets and smart phones connected to the internet). Remote live interactions (videoconferencing via the internet) could improve the quality of care by increasing the level of accessibility, reach and convenience between health professionals and their clients.

A recent review on the general clinical use of Skype© (Armfield et al 2013) failed to identify any large, robust studies which had considered the safety, security and privacy of Skype© as well as its clinical effectiveness for delivery of care. In the context of Speech and Language Therapy, a few studies have evaluated videoconferencing (including Skype©): it has been used as a means of remote communication in adult speech and language therapy in the areas of Parkinson’s disease ([Beijer, Rietveld et al. 2010](#_ENREF_1)), dysphagia ([Sharma, Ward et al. 2012](#_ENREF_6)) and stuttering therapy ([Carey, O'Brian et al. 2010](#_ENREF_2)). This type of service delivery has already been introduced in other countries, e.g. New Zealand ([Williams 2012](#_ENREF_10)), United States ([Grogan-Johnson, Alvares et al. 2010](#_ENREF_3)), and Canada ([Sicotte, Lehoux et al. 2003](#_ENREF_7)). Data from the UK is very limited. Further work is needed to test the use of Skype© in SLT with younger populations and importantly within the context of the NHS framework for service delivery.

Further, there is evidence to suggest that a delay in accessing SLTs can have a detrimental effect on a child’s cognitive, emotional and social development as well as their educational attainment (e.g. Royal College of Speech and Language Therapists, 2009). Delay can also have a negative impact on health care services due to the increased demand associated with developing complex needs. Thus, improving the efficiency of services without reducing their quality has the potential to reduce waiting times and thus lessen the impact of any delays in accessing SLTs for both the Trust and service users.

Thus the aim of this project was to evaluate the use of videoconferencing via Skype© for the delivery of SLT and its impact on both staff and service users.

**Objectives:** Specifically our objectives were to:

1. Explore service users experiences of using the Tablet for SLT appointments compared to existing provision in terms of ease of access and the strengths and limitations of the mode of delivery
2. Explore SLTs experiences of using the Tablet with service users compared to existing practice in terms of ease of access and the strengths and limitations of the mode of delivery
3. Evaluate the impact of this method of service delivery on resources.

**Methods:** Prospective case series using qualitative and quantitative methods.

Seven SLTs participated. They recruited and consented 9 clients and their parents/carers to take part in a service evaluation whereby speech and language therapy sessions would be conducted over Skype© instead of face to face. SLTs and their clients were provided with 3G enabled Galaxy Samsung Tablets specifically for this purpose for a three month period. The clients receiving therapy ranged from age 3 to 14, and presented with a number of different conditions, including deafness, dysphagia and expressive language difficulties and thus therapy needs.

Therapists arranged appointments and follow-ups with clients as normal and following each ‘virtual’ session, therapists and their clients or parents/carers were required to complete a survey on the device. The survey queried session type, duration, content and their experience of using the device and Skype© and included an option to add free text comments. At the end of the study period all participants were invited to take part in an interview about their experiences.

**Results:** Devices were used for a variety of session type and included therapists Skyping into the home to deliver therapy or review the parent/carer doing activities with the child; Skyping into school; and the parent/carer Skyping into sessions carried out with the child in school.

49 post session online surveys were completed (32 SLT, 17 clients) and 11 interviews (6 SLTs, 4 parent/carer and one child/parent dyad).

Survey: Agreement with survey statements was very high for clients (see appendix 1) with 93% agreeing that connectivity was easy, that they were able to see and hear the therapist and that the interaction was good. Therapists results were more varied, but the majority agreed the interaction via Skype© was successful and their results are consistent with those of the clients.

Average duration of online sessions was 27.8 minutes (SD9.9) and time saved travelling per session ranged from 15 to 60 minutes with a mean of 26.6 minutes (SD13.2). In terms of costs for travel, the mileage saved by using online instead of face to face contact averaged 8.2 miles per session (SD=10.1, range 0-50). At 54p per mile, the average cost would be £4.43 (range £0-27) per session.

Use of Skype for some sessions would result in obvious savings in travel costs, for example, the average cost of travel per therapist per month is £200. If the number of visits made by the 47 therapists in the Trust were reduced by half, and thus the travel costs halved, that would equate to a saving of around £56K (47 therapist @£100 per month x 12 months). Further savings could result as costs for DNAs to Skype appointments would be less than a face to face session where therapists had travelled to the appointment.

There were 32 separate comments from therapists and 16 from clients following sessions. Twelve (37%) from SLTs related to technical issues, either difficulty getting connected, losing connection part way through session or sound being distorted during the Skyping session. Only three sessions had to be rearranged; most issues were resolved and the session continued. The majority of client comments were positive and the two negative ones aligned SLTs comments. Therapists were more likely to identify issues related to practice in Skype© sessions, e.g. difficulties with sound, vision or positioning the tablet and/or client for the best visual input but also noted how motivated clients were to engage with therapy via Skype©. Clients highlighted the convenience of using Skype©.

Interviews: Data from transcribed interviews were analysed using thematic analysis and the following major themes identified: ‘Acceptability’, ‘Convenience and Satisfaction’, ‘Experience’ and ‘Resources’. With the exception of ‘Resources’ all were common to both SLTs and clients. Though overwhelmingly positive, some negative comments were evident (minimal).

‘Acceptability’: This encompassed how acceptable using the technology and Skype© was, the ease of learning to use it if you were a novice, simplicity of use (touch screen) and a recognition that advances in technology (display, sound) made it possible to carry out therapy via tablet computers. Clients indicated that they would not like contact with SLTs to be confined to Skype© sessions. Two SLTs noted some technological difficulties when liaising with schools to enable use of Skype©.

‘Convenience and Satisfaction’: This theme included scheduling, timing and duration of appointments. Use of Skype© meant that appointments could be more flexibly throughout the day and need not be e.g. during school hours only or of a fixed duration, e.g. SLTs could Skype© to review briefly review a client rather than use a whole slot and remove the need for travelling to appointments. For clients this meant having the therapy ‘in their own homes’ with relevant context and was viewed extremely positively. Similarly, increased flexibility for some meant both parents could be fully involved in therapy either at home or by Skyping into school.

‘Experience’: A major theme on the experience of therapy via Skype©. Again, this was extremely positive for both SLTs and their clients. Parent/carers and SLTs observed the child being more interested and engaged with therapy using the tablet device, while SLTs reported that parent/carers were also more engaged. SLTs reported no DNAs to Skype© sessions. SLTs considered they had to adapt therapy a little in some instances but overall it translated well through Skype©. The need to be organised prior to the session with any necessary resources for both parties, and occasional difficulty of seeing both the person and resources on the screen simultaneously were noted. Parents/carers observed the home context was more relevant to children and less distracting than other environments.

‘Resources’: All SLTs considered Skype© provided an efficient means to deliver therapy and that it positively impacted on the availability of resources (e.g. time, mileage). However, therapists commented on the limited availability of office space which meant that finding an adequate confidential area to deliver therapy via Skype© was an issue. This was also the case for therapy in a school setting. SLTs reported some resources needed for therapy (e.g. objects, card games) needed to be provided to parents/carers ahead of the session. Having participated in the evaluation, SLTs recognised the advantages of Skype© over telephone contact or a home visit for brief reviews and had creative ideas for maximising the use of tablets for SLT, e.g. use of apps for clients to use between sessions. Therapists commented that provision of tablets on loan in this study improved access to services for some clients.

**Conclusions:** Consistent with other studies that have looked at the experience of using Skype© the findings of this small evaluation are very positive. Skype© is acceptable to both therapists and clients and offers an accessible, resource efficient means of delivering speech and language therapy without apparent loss of quality. Both clients and therapists indicated that Skype© should not wholly replace face to face therapy, but could offer an alternative means of contact in between such sessions and/or a way of having more, but briefer contacts, e.g. to monitor progress and advise on practical exercises. It should be noted that not all clients would have the skills or desire to engage with SLT via Skype. There was consensus that Skype should only be used for pre-arranged appointments with a specific purpose.

There are potential savings to be made in service delivery though these need to be considered alongside any additional costs that may result, e.g. equipment purchase, staff training needs. The savings are associated with less travel costs, an expected reduction in DNAs due to improved engagement with services and the time saved by therapists travelling to appointments. The average Skype© session length was approximately 30 minutes and this was also the average travel time saved. Hence use of Skype© for some appointments would free up therapists time, lead to greater efficiency in service delivery and positively impact on waiting times for therapy.

**Strengths and Limitations:** This study is one of the first that has objectively sought the opinions of SLTs and their clients regarding the use of Skype© to deliver therapy. As such it provides an evidence base for the use of Skype in SLT. Skype is free, available across a range of device platforms, and widely used by citizens in their everyday lives, making it very accessible. Online data collection was self-report and LJMU researchers carried out the interviews and analysis, reducing bias associated with reporting directly to the therapists on their practice. However, the small sample size limits the external validity/wider generalizability of the findings.

**Recommendations and implications:**

* The main recommendation from this report is that the Trust consider expanding the use of Skype© to deliver some Speech and Language Therapy services.

A decision to expand the use of Skype would have the following implications and additional recommendations:

* Provision of training in use of Skype©  for staff who require it.

This would require minimal input and experienced staff who participated in this study could be identified as ‘Skype Champions’ to provide ongoing mentoring and/or peer support.

* Purchase of additional ‘loan’ equipment for service users

Although clients and parents/carers could use their existing devices, not all LCH clients may have this option. Importantly, the socio-economic profile of the population served by LCH indicates that not all would have the necessary skills and/or access to the internet. Provision of a 3G enabled device, as used in the current study with therapist support, would ensure equity in access to services.

A loan scheme would require administrative support to track loan and return of devices as well as technical support to deal with any technical issues and to ‘wipe’ data from devices on their return.

* Provide spaces within the workplace environment that allow confidentiality to be maintained.

For example, by use of individual pods or small rooms that can be booked in advance. Additionally, a flexible working policy that enables therapists to work remotely or from home to deliver therapy should be considered.

* Develop existing systems to provide a forum for SLTs using Skype to exchange information and experience to develop good practice guidelines for local use of Skype in delivery of services.
* Enhance the systems for governance that have developed during the process of the current study to ensure any risks associated with using Skype remain minimal.

During this study, guidance on the use of Skype in the NHS was produced. The procedures used in the study align with and further develop these and are likely transferable to other settings within the Trust.

* Given the success of the current project, consider expanding use of Skype to delivery of services in other areas as appropriate

**Additional information:**

To address the limitations of this study, survey to ascertain the opinions of all SLTs and SLT service users within the Trust has been commissioned and is in progress.

Parts of this work were presented at the International Digital and Health Care Conference in London on 11th September 2014 (see appendix 2)

The SLT team received the LCH Trust award for Innovation in 2013 for the KIT project and have been nominated for an HSJ award.

**References**:

Armfield, N.R., et al. (2012) Clinical use of Skype: a review of the evidence base. Journal of Telemedicine and Telecare, 18(3): 125-7.

Beijer, L. J., T. C. Rietveld, et al. (2010). "Evaluating the feasibility and the potential efficacy of e-learning-based speech therapy (EST) as a web application for speech training in dysarthric patients with Parkinson's disease: a case study." Telemedicine journal and e-health : the official journal of the American Telemedicine Association **16**(6): 732-738.

Carey, B., S. O'Brian, et al. (2010). "Randomized controlled non-inferiority trial of a telehealth treatment for chronic stuttering: the Camperdown Program." International journal of language & communication disorders / Royal College of Speech & Language Therapists **45**(1): 108-120.

Grogan-Johnson, S., R. Alvares, et al. (2010). "A pilot study comparing the effectiveness of speech language therapy provided by telemedicine with conventional on-site therapy." Journal of telemedicine and telecare **16**(3): 134-139.

Mashima, P. A., D. P. Birkmire-Peters, et al. (1999). "Telehealth applications in speech-language pathology." Journal of healthcare information management : JHIM **13**(4): 71-78.

Royal College of Speech and Language Therapists (2009) RCSLT Resource Manual of Comminsioning and Planning Services for SLCD: Dysphagia. <http://www.rcslt.org/speech_and_language_therapy/commissioning/dysphagia> accessed 7/6/14

Sharma, S., E. C. Ward, et al. (2012). "Assessing dysphagia via telerehabilitation: Patient perceptions and satisfaction." International journal of speech-language pathology. Int J Speech Lang Pathol. 2013 Apr;15(2):176-83

Sicotte, C., P. Lehoux, et al. (2003). "Feasibility and outcome evaluation of a telemedicine application in speech-language pathology." Journal of telemedicine and telecare **9**(5): 253-258.

Williams, P. H., F. (2012). "Speech and language therapists say ‘yes’ to bridging barriers with technology." Telerehabilitation (<http://www.ithealthboard.health.nz/sites/all/files/Telerehabilitation%20Flyer%20v2.pdf> accessed 12/12/12

**Acknowledgments**

This report outlines a study which carried out by Liverpool Community Health Trust (LCH) and Liverpool John Moores University which represents a further development of the Academic Partnership between the two organisations. The partnership continues to build research capacity within LCH and as such Sheena Round, Dr Carolyn Lees, and Ricky Wallace worked alongside LJMU Researchers Dr Helen Poole and Dr Paul Fergus throughout. Sheena Round was instrumental in initially devising the project, driving it forward within the Trust and Merseyside and Cheshire Hearing Impaired Network and in collaboration obtaining funding from North West Innovations Fund.

The authors would like to thank all the Speech and Language Therapists from LCH and the Merseyside and Cheshire Hearing Impaired Network for their participation and contributions to developing the project; and also the service users who took part in the study.

**Appendices**

**Appendix 1:** summary of % questions data from devices

**Appendix 2:** presentation delivered to International Digital Health and Care Conference, Kings Fund, London, 11/09/14

|  |  |  |
| --- | --- | --- |
| Questions on devices | **THERAPISTS** who agreed (%) | **CLIENTS** who agreed (%) |
| How many miles would you have travelled to do this session face to face? (miles) | Between 0 and 50miles | Between 0 and 5miles |
| How long would it have taken you to travel to and from this session if you had done it face to face? (miles) | Between 0 and 60mins | Between 0 and 15 mins |
| It was easy to get a connection | 84% agreed | 93% agreed |
| The visual display was clear throughout the session | 75% agreed | 93% agreed |
| It was easy to see the client throughout the session (as in visual field adequate e.g. head/shoulders) | 80% agreed | 93% agreed (it was easy to see the therapist) |
| The sound was clear throughout the session | 80% agreed | 93% agreed |
| The client did not report any difficulty with the visual display (picture/image) throughout the session | 70% agreed | 93% agreed (that the therapist did not) |
| The client did not report any difficulty with the sound throughout the session | 80% agreed | 93% agreed (that the therapist did not) |
| Did you need to use visual aids in the session? (yes/no). | 60% used them | 62% agreed |
| If yes: Using visual aids worked well in this session | 18% who used agreed | 62% who used agreed |
| I had a successful communication / interaction with the client using this technology | 87% agreed | 93% agreed (communication with the therapist) |
| Using this technology had a positive impact on my interaction with the service user/client | 85% agreed | 93% agreed (interaction with the therapist) |
| Having a session using videoconferencing was much more convenient for me than having a face to face meeting | 85% agreed | 86% agreed |
| Using this technology had an adverse impact on my interaction with the service user/client | 12% agreed | 6.3% agreed |