



Topic Exploration Report

Topic explorations are designed to provide a high-level briefing on new topics submitted for consideration by Health Technology Wales. The main objectives of this report are to:

1. Inform discussions on new topics received by HTW.
2. Determine the quantity and type of evidence available on a topic.
3. Assess the topic against HTW selection criteria.

Topic:	Digital communication platforms to deliver speech and language therapy for children with speech sound disorders
Topic exploration report number:	TER095
Referrer:	Niamh Ward

Aim of Search

Cedar searched for evidence on the use of digital communication platforms (Skype for Business or similar) in supporting the delivery of speech and language therapy for the treatment of children with speech sound disorders.

Summary of Findings

There is limited evidence on telehealth to support the delivery of speech and language intervention for children. Three relevant systematic reviews were identified (quality not assessed). The reviews show that the use of telehealth in this area has promise, but all concluded that the evidence is limited: CADTH (2015) included 2 studies, Taylor et al. (2014) included 5 studies and Wales et al. (2017) included 7 studies. None of the studies were done in the UK.

Applying the evidence standards framework for digital health technologies, this topic would be classified under evidence tier 2 (communicate). As part of the minimum standards, all digital health technologies require evidence to show that the technology is plausible within the relevant field, and has been successfully piloted in the UK and is relevant to the current care pathways and service provision.

Conclusions

A further review of this topic is unlikely to find additional evidence that has not been included in the existing reviews. As concluded by Wales et al. (2017), more rigorous study designs are required to support the efficacy of telehealth for this population.

The topic referrer informed HTW that this technology is being piloted within the Welsh Centre for Cleft Lip and Palate. If made available, data from this pilot would help in deciding whether the service can support the delivery of speech and language intervention for children with speech sound disorders in Wales.

Areas of Uncertainty

It is uncertain whether data from the pilot within the Welsh Centre for Cleft Lip and Palate would be available to support further assessment of this topic.

No cost-effectiveness was identified.

Feasibility of Technology Assessment

Due to the limited published evidence, HTW's Assessment Group concluded not to progress this topic further.

Brief literature search results

Resource	Results
HTA organisations	
Healthcare Improvement Scotland:	None
Health Technology Assessment Group	None
Health Information and Quality Authority	None
UK guidelines and guidance	
SIGN	None
NICE	None
Secondary literature and economic evaluations	
EUnetHTA	None
Cochrane library	None
Medline	In addition to reviews provided by referrer: <ul style="list-style-type: none"> • Taylor OD, et al. "A review of the efficacy and effectiveness of using telehealth for paediatric speech and language assessment." <i>Journal of Telemedicine & Telecare</i> 20.7 (2014): 405-12.
Primary studies	
Medline	In addition to studies provided by referrer: <ul style="list-style-type: none"> • Ciccia AH, et al. "Improving the access of young urban children to speech, language and hearing screening via telehealth." <i>Journal of Telemedicine & Telecare</i> 17.5 (2011): 240-4. (USA) • Sutherland R, et al. "Telehealth language assessments using consumer grade equipment in rural and urban settings: Feasible, reliable and well tolerated." <i>Journal of Telemedicine & Telecare</i> 23.1 (2017): 106-115. (Australia) • Waite MC, et al. "Internet-based telehealth assessment of language using the CELF-4." <i>Language, Speech & Hearing Services in the Schools</i> 41.4 (2010): 445-58. (Australia)
Cochrane library	None
Ongoing secondary research	
PROSPERO database	None
Ongoing secondary research	
PROSPERO database	None
Other	
Evidence identified by topic proposer	<p>PubMed Telehealth for Speech and Language Pathology: A Review of Clinical Effectiveness, Cost-Effectiveness, and Guidelines [Internet]. Ottawa (ON): Canadian Agency for Drugs and Technologies in Health; 2015 Apr 7.</p> <p>KEY FINDINGS The evidence from two randomised controlled trials suggests that speech-language pathology treatment, delivered via videoconferencing or an in-person service model, improved children's speech-language</p>

impairments. There were no significant differences found between these two models. These findings must be interpreted with caution given the limitations in the evidence.

Included 2 RCTs:

- Grogan-Johnson S, Schmidt AM, Schenker J, Alvares R, Rowan LE, Taylor J. A comparison of speech sound intervention delivered by telepractice and side-by-side service delivery models. *Communication Disorders Quarterly*. 2013 Aug;34(4):210-220.
- Grogan-Johnson S, Alvares R, Rowan L, Creaghead N. A pilot study comparing the effectiveness of speech language therapy provided by telemedicine with conventional on-site therapy. *J Telemed Telecare*. 2010;16(3):134-139.

Provided by referrer:

1. Britton, L., Albery, L. Bowden, M., Harding-Bell, A., Phippen, G. and Sell, D. (2014) A cross-section cohort study of speech in five year olds with cleft palate +/- lip to support development of national audit standards: Benchmarking speech standards in the United Kingdom. *The Cleft Palate and Craniofacial Journal*, 51 (4), 431-51.
2. Fairweather, G. C., Lincoln, M. A., & Ramsden, R. (2016) Speech-language teletherapy in rural and remote educational settings: decreasing service inequalities. *International Journal of Speech - Language Pathology*, 18, 592-602.
3. Greenhalgh, T., Procter, R., Wherton, J., Sugarhood, P. & Shaw, S. (2012) The organising vision for telehealth and telecare:discourse analysis. *BMJ Open*, 2.
4. Greenhalgh, T., Shaw, S., Wherton, J., Vijayaraghavan, S., Morris, J., Bhattacharya, S., Hanson, P., Campbell-Richards, D., Ramoutar, S., Collard, A., and Hodkinson, I. (2018) Real world implementation of video outpatient consultations and macro, meso and micro levels: mixed-methods study. *Journal of Medical Internet Research*, 20 (4).
5. Greenhalgh, T., Vijayaraghavan, S., Wherton, J., Shaw, S., Byrne, E., Campbell-Richards, D., Bhattacharya, S., Hanson, P., Ramoutar, S., Gutteridge, C., Hodkinson, I., Collard, A. & Morris, J. (2016) Virtual online consultations: advantages and limitations (VOCAL) study. *BMJ Open*, 6.
6. Haig-Ferguson, A., Loades, M., Whittle, C., Read, R., Higson-Sweeney, N., Beasant, L., Starbuck, J. & Crawley, E. (2019) "It's not one size fits all" the use of videoconferencing for delivering therapy in a specialist paediatric chronic fatigue service. *Internet Interventions*, 15, 43-51.
7. Mashima, P. A. & Doarn, C. R. (2008) Overview of Telehealth Activities in Speech-Language Pathology. *Telemedicine and e-health*, 14(10).
8. Sanchez, D., Reiner, J. F., Sadlon, R., Price, O. A. & Long, M. W. (2019) Systematic review of school telehealth evaluations. *Journal of School Nursing*, 35 (1), 61-76.
9. Stewart Keck, C. & Doarn, C. R. (2014) Telehealth Technology Applications in Speech- Language Pathology. *Telemedicines and e-health*, 20(7).

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| | <p>10. Theodoras, D. (2012) A new era in speech-language pathology practice: Innovation and diversification. <i>International Journal of Speech Language Pathology</i>, 14, 3</p> <p>11. Thomas, D. C., McCabe, P., Ballard, K. and Lincoln, M. (2016) Telehealth delivery of Rapid Syllable Transitions (ReST) treatment for childhood apraxia of speech. <i>International Journal of Language and Communication Disorders</i>, 51(6), 654-671.</p> <p>12. Wales, D., Skinner, L. and Hayman, M. (2017) The efficacy of telehealth delivered speech and language intervention for primary school age children: a systematic review. <i>International Journal of Telerehabilitation</i>, 9(1).</p> |
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Date of search:	15 May 2019
Concepts used:	"speech and language" and telehealth