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The development of the NetQues project

Swallowing Matters, an online community for dysphagia peer support

Distance is no longer an object: Remote Assessment Providing Intervention for Dysphagia (RAPID)

ROYAL COLLEGE OF SPEECH & LANGUAGE THERAPISTS

Distance is no longer an object

Elizabeth Boaden, Veronica Southern, Linda House and Sarah Nickson discuss the development of RAPID – Remote Assessment Providing Intervention for Dysphagia

ILLUSTRATION BY **Adam Pointer**

The use of telemedicine in the assessment and management of individuals with communication disorders is emerging as a useful tool in the way SLTs deliver services. Although the remote assessment and management of dysphagia via telemedicine (teleswallowing) is used internationally (Hill and Miller, 2012) it is not an approach used routinely in the UK.

Remote assessment

Blackpool Teaching Hospitals NHS Foundation Trust comprises three hospitals and the provision of adult community services to a large geographical area. The preponderance of an older population within this area is associated with the high number of speech and language therapy referrals for domiciliary assessment of swallowing difficulties.

After securing funding from North West IT Innovations Programme, we developed teleswallowing to augment our existing service delivery programme, commensurate with the National Institute for Health and Care Excellence's Quality, Innovation, Productivity and Prevention Programme (QIPP).

Teleswallowing

Blackpool Teaching Hospitals NHS Foundation Trust piloted a teleswallowing scheme with three nursing homes

Pilot involved 12 patients referred with dysphagia-related problems

Teleswallowing and clinical SLTs achieved high levels of agreement in their recommendations

Further funding will extend teleswallowing service to more local nursing homes

Teleswallowing requires telemedicine equipment (such as a desktop computer with camera and a tablet device) to allow the SLT to remotely assess and manage swallowing difficulties by directing healthcare professionals who are with the patient to undertake specific tasks.

Pilot study

Between August 2013 and March 2014, we undertook a pilot scheme with three nursing homes with the highest referral rates to our service. The study included 12 patients who were referred in line with the current departmental criteria.

Initially, concerns centred on the use and reliability of the technology, as well as safeguarding information governance. Information governance was safeguarded by the firewall embedded into the system by the IT department. Initial technical issues were resolved within this pilot.

Diagnostic accuracy

In order to address SLT concerns regarding diagnostic accuracy, we sought to compare the assessment outcomes of the teleswallowing SLT, who directed the nursing staff to undertake the dysphagia assessment remotely via telemedicine, and the clinical SLT who had direct contact with patients.

Three experienced SLTs who had worked together for many years and had similar management approaches were involved in the project. Their compatible management approach allowed us to suggest that differences in recommendations would be assigned to technology rather than differences in SLT opinion.

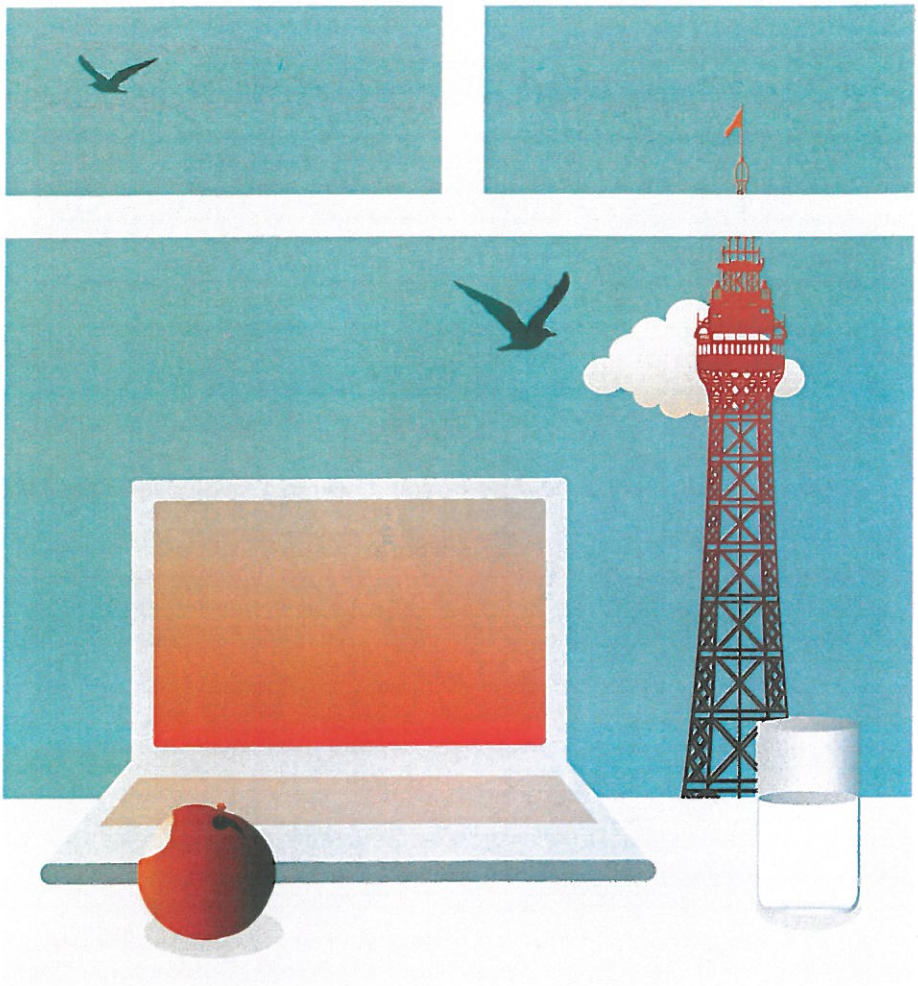
In order to reduce bias, the role of teleswallowing SLT and clinical SLT was randomly allocated. Twelve patients received contiguous but independent swallow assessments, once by the remote SLT via teleswallowing and once by the clinical SLT who undertook a face-to-face assessment. In order to minimise the effects of swallow fatigue, the order of the assessments was randomised. The SLTs were blind to each others' assessments and recommendations. An independent consultant dysphagia practitioner undertook the project design and training. The evaluation was undertaken from comparisons of written assessment outcomes and recommendations.

Achieving agreement

The 12 patients had an age range from 46 to 94 years old and presented with a range of conditions: dementia, head injury, stroke and non-specific deterioration in elderly swallow function. Patient referrals identified requests for assessment for a variety of reasons, including signs of aspiration, swallow improvement, swallow deterioration and weight loss.

The teleswallowing and clinical SLTs were able to achieve agreement in their recommendations in patients with not only

"Teleswallowing can offer diagnostic clarity through high-quality visual and audio links"



'good' cognitive ability but also those who were rated to have 'poor' and 'moderate' cognitive ability and cooperative skills.

The levels of agreement were:

- 100% agreement between the teleswallowing and clinically-based SLTs for a requirement of modified oral intake.
- 100% agreement on the recommended diet consistency options (choice of five options: normal, soft, blended, no food orally and other).
- 75% agreement on the recommended modified fluid consistency (a choice of six options: normal, syrup, custard, pudding, no fluids orally and other). The 25% discrepancy on the recommended modified fluid consistency amounted to the difference between custard and pudding consistency, ie 0.5 scoop of thickener per 100mls of fluid for three patients.
- We also achieved high levels of agreement on strategies and management advice.

Qualitative questionnaires showed that the six nurses, three SLTs and one patient able to express an opinion all reported benefits to using the system. Contrary to previously expressed concerns, no one reported a loss of personal contact using the remote teleswallowing assessment.

Teleswallowing benefits

There was an increase in collaboration and continuity of care between nursing homes and the speech and language therapy department. The nurse and SLT post-intervention questionnaires reported that targeted education and training (four hours theory and simulated practice surrounding the SLT teleswallowing assessment proforma) increased local providers' competence and confidence in assessment. As part of the qualitative analysis of the pilot, the nursing staff felt the training was fit for purpose and required no modification in terms of the content or time taken.

The average time for speech and language therapy assessment was significantly reduced, with a bedside assessment of patients in the acute setting taking an average of 60 minutes, a domiciliary visit taking 90 minutes and a teleswallowing assessment, 30 minutes. The difference in time taken was due to the nursing home staff preparing the patient, assessment tools, consistencies, utensils that may be required and documentation prior to the contact with the SLT. This allows the SLT to focus on the clinical assessment. The fact that nursing staff share documentation with SLTs also makes for streamlined case history taking and reporting.

There are potential cost efficiencies from teleswallowing – a potential improvement in patient health by rapid response to referrals, reduction in incidence of admission or readmission to the acute care setting, reduction in domiciliary visits and an increase in capacity and productivity for SLTs.

Next steps

We have secured further funding to extend teleswallowing service delivery to more nursing homes within the locality. We will use the training and documentation package developed as part of this pilot phase to implement teleswallowing in other nursing and residential homes. To ensure sustainability, teleswallowing training may become part of a rolling programme to address the turnover of staff within the nursing homes or may become the basis for a 'train the trainers' scheme.

Teleswallowing has the potential to provide rapid advice, support and collaboration between the SLT and the residential home setting and, as such, further developments may consider supporting patients with swallowing difficulties in the community as part of the preferred placement of care at end of life pathway.

Our pilot suggests that teleswallowing can offer diagnostic clarity through high-quality visual and audio links. It enables the provision of a rapid response without compromising care, which may potentially reduce costly hospital admissions and time-consuming domiciliary visits by clinicians.

Telehealth requires clinical leadership to engage, motivate and provide focus for the interdisciplinary team because it is essential to have someone who is able to resolve difficulties and maintain close liaison between IT, primary and secondary care while establishing this augmentative service delivery model. ■

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References & resources

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