Teleswallowing - from Pilot to Service Transformation: barriers to the adoption of successful telehealth solutions.

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Elaine Bidmead, Tilly Reid, Alison Marshall – Cumbrian Centre for Health Technologies (CaCHeT) at the University of Cumbria

Veronica Southern – Blackpool Teaching Hospitals NHS Foundation Trust

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Agenda

➢ Background – Introduction to Teleswallowing

➢ What we did

➢ Results and Findings: benefits, concerns and barriers

➢ Analysis

➢ Conclusions and recommendations

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Teleswallowing:-

• Is an innovation designed by Blackpool Speech and Language Therapy Department to enable remote swallowing assessment of dysphagic patients resident in nursing homes

• It is a response to the growing demand on Speech and Language Therapy departments for swallowing assessments

• Was initially piloted in three nursing homes between August 2013 and March 2014, and was evaluated as successful in April 2014.

• Was expanded to five further nursing homes in October 2014 to test findings on a larger scale and to enrich the clinical case for service transformation.

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The Need for Teleswallowing:-

•Dysphagia (swallowing problems) is common following neurological insult or disease and is known to precipitate:

- o Aspiration pneumonia,
- o Malnutrition,
- o Poor rehabilitation,
- o Increased hospital stays and
- o Reduced quality of life

•Prompt assessment can avoid such problems but delays are common due to staff shortages, work patterns and waiting lists

•Delays result in poor quality of care for the patient and inefficient use of limited NHS resources

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- Each nursing home was loaned a laptop, with Polycom/TeamViewer software loaded on, and a webcam, a pulse oxymeter and torch.

- Training was provided to nursing home nurses, one session regarding usage of equipment and another on the anatomy of swallowing.

- Patients were recruited to teleswallowing on receipt of referral from the nursing home and all were given a teleswallow assessment.

- Patients presented with dysphagia relating to post stroke challenges, dementia and one with challenging schizophrenic behaviour.

- Nursing home staff prepared for the assessment in advance:- the patient sitting in an upright position, with oral hygiene completed and pulse oxymeter attached; thickened drinks and food ready. This allowed the therapist to be focused in the delivery of the service

- Swallowing decisions were made on all referrals and home visits were not necessary.

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- The Cumbrian Centre for Health Technologies (CaCHeT) at the University of Cumbria was engaged to undertake an Adoption Study using the Stakeholder Empowered Adoption Model

Our remit

- To build a case for the adoption of Teleswallowing assessments as a clinically effective service delivery method

- To identify and describe potential barriers and benefits to patients, clinical team, managers and commissioners

- Support dissemination and influencing

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What we did

- Detailed protocol and study design finalised with senior management and team;
- Structured interviews with
  - 4 nursing home managers/matrons (1 managed 2 homes)
  - 3 nursing home nurses
  - Community Home Support Team Lead
- Examination of data available to record hospital episodes for participating patients
- Focus groups/action research with SLTs to identify and address barriers to adoption by team
  - 4 follow up interviews with SLTs, including the team leader and a dysphagia specialist

- All the above were done both *before* and *after* the teleswallowing assessments phase of the project

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Results

- The clinical work was done over a 3 month period Dec 2014 – Feb 2015

- 17 patients received 22 fast track remote swallowing assessments during the study period

- 6 SLTs conducted teleswallowing assessments in this period

- 5 nursing homes participated in the study and had equipment installed with IT support

- 10 nursing home nurses were trained; all assisted in teleswallowing assessments

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Benefits of Teleswallowing

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The Benefits of Teleswallowing:- Upskilled Staff

"It benefits my practice and it benefits the residents. For me it is one more thing that I am trained to do and that means … I'll be able to provide, in coordination with a speech and language therapist, a quicker response to residents that have got problems with their swallowing" (NH-Nurse3).

Benefits of Teleswallowing:- Quicker Assessment

"It gives us access to a service quickly that's needed quickly, that people don't recognise further up the management chain, if you've got a 6 week wait for this sort of service that can be the difference between life and death. So, for us to be able to have … a service that we can now access, quickly, timely ... It's a win win situation where you get the service that you need, when you need it and the difference it makes to our patients is huge" (Matron4).

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The Benefits of Teleswallowing:-

- Avoidance of serious problems and hospital admission

- Less distress for patients and improved quality of life

- Benefits of not having to attend outpatient appointments

- Freeing up speech and language therapists' time

- Prestige for participating nursing homes.

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The Benefits of Teleswallowing:-

Savings in Time and Mileage (n.22)	
Average length of teleswallowing assessment	26 mins.
Assumption re average length of standard assessment (inc. travel)	90 mins.
Average time saving per contact	64 mins.
Average miles saved per contact	14 miles

Cost savings[6]	
Opportunity cost (clinical time)	£734
Cashable Saving (mileage costs)	£178
Total Saving	**£912**

NB:- The saving does not include cost of equipment. The staff time saving is not 'cashable' but does represent an opportunity cost as theoretically this time could be used to do something else. The opportunity cost is based on a band 7, given that assessments are undertaken by band 6, 7 or 8 staff.

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Concerns about Teleswallowing:-

- Accountability – can therapists be confident in making diagnoses?

- Concerns relating to Nursing Homes – can therapists be confident in the competencies of nursing home staff? Might Nursing Homes be "doing their own thing"?

- Clinical validity – have sufficient numbers been assessed to demonstrate that teleswallowing is a safe method of assessment?

- Using Teleswallowing appropriately – ought teleswallowing assessments be reserved for certain types of patient and/or scenarios?

- Patient experience – how do patients feel about being assessed via digital technology?

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Barriers to adoption – Technological Problems

- Technological problems were the main perceived barrier to adoption;

  o It was not so much the technology but people's ability to deal with the technology that presented the barrier

  o The presence of small 'niggling' problems did little to dispel negative attitudes

  o It was apparent that that the technology had not been sufficiently tested before going live due to a delayed start to the project

Consequently:

- Small problems impacted for longer than was necessary

- Negative experiences of technology reduced confidence in the innovation itself

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Technological Barriers

"I have attempted to do three … and I have not been successful in doing any of them, and the time that I spent on them I could have been out to the nursing home and back … I wasn't not looking forward to them but I wasn't over-joyed. It was something that yes, I want to give it a go because I think it will be for the good of the patients and the good of the department but because of my lack of technical knowledge and skill then I was very wary about it. And so of course, when the three of them haven't worked that's sort of backed it up. But having said that I'm not throwing in the towel here; I'm very much looking at it pragmatically in that this won't always happen" (SLT2).

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Barriers to adoption – Therapists' Acceptability

- The delayed start resulted in fewer opportunities for therapists to experience and become skilled in remote assessments.

- Speech and language therapists were concerned about their workplace identity, they enjoy being with patients and do not welcome the prospect of "*being stuck behind a computer all day*".

> "*I guess negatively, and this is something that I love about my job, that you go in and you have that interaction with somebody so it was quite hard … It's not the same interaction as me being in the room, you know I really like my patients and I really like having that interaction with them, winning them over and having a bit of a giggle with them and doing a thorough assessment*" (SLT2).

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Barriers to adoption – Lack of perceived benefits

The project took place against a backdrop of major staff shortages and pressures on the Speech and Language Therapy team

Consequently

- Waiting times were going up rather than down meaning that any time savings were quickly used up and so were not 'felt' by SLTs

- Therapists felt too under pressure to take on new ways of working and having to deal with tools they did not understand

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Who Benefits from - Upskilled staff in nursing homes?

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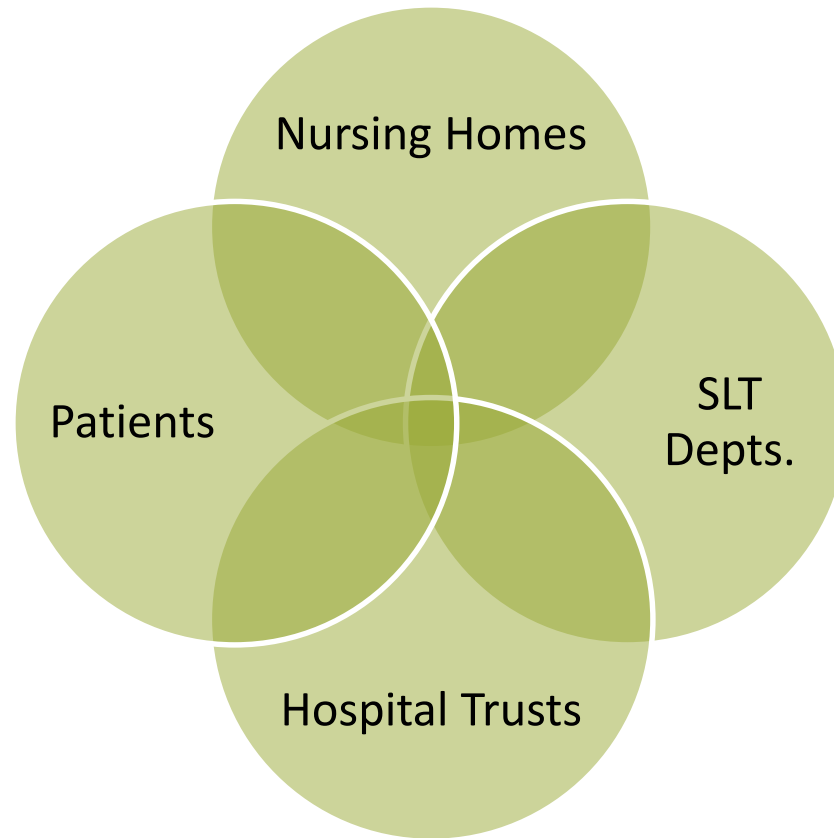
Who Benefits from - Speedier assessment ?

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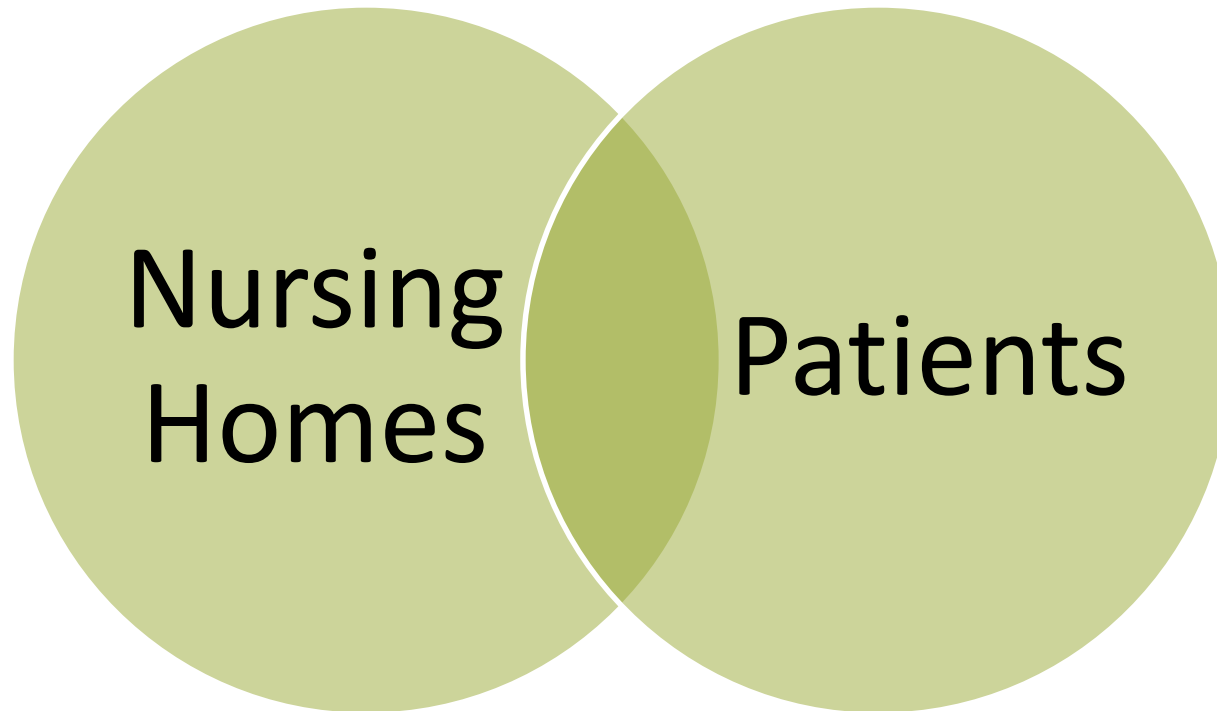
Who Benefits from - Avoidance of serious problems and hospital admission?

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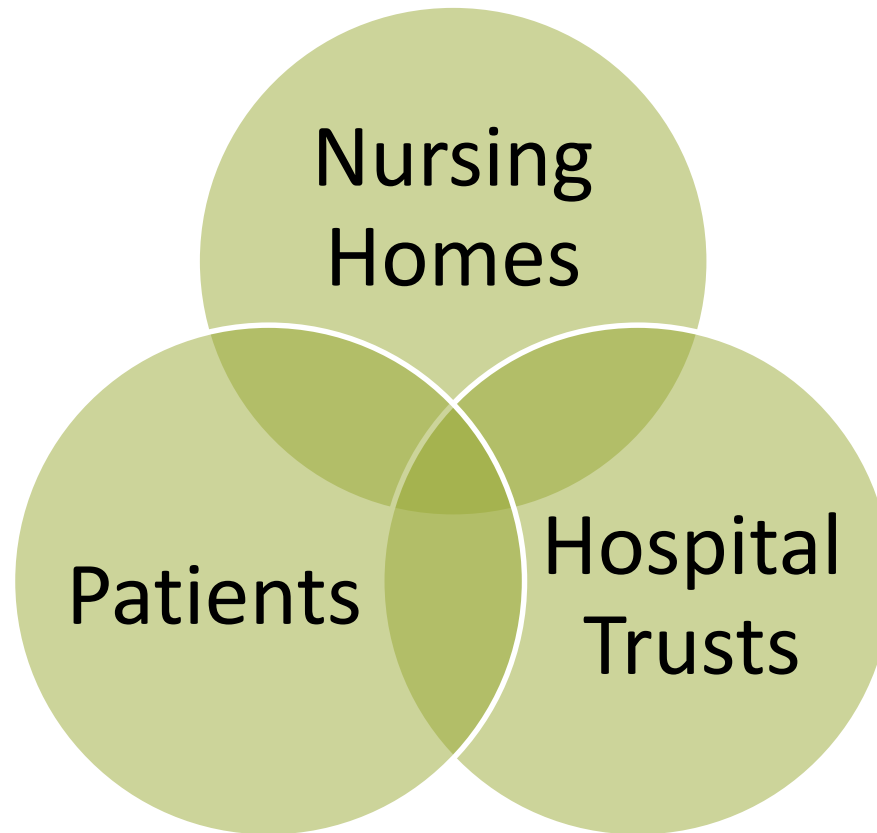
Who Benefits from - Less distress for patients and improved quality of life ?

Patients

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Who Benefits from - not having to attend outpatient appointments?

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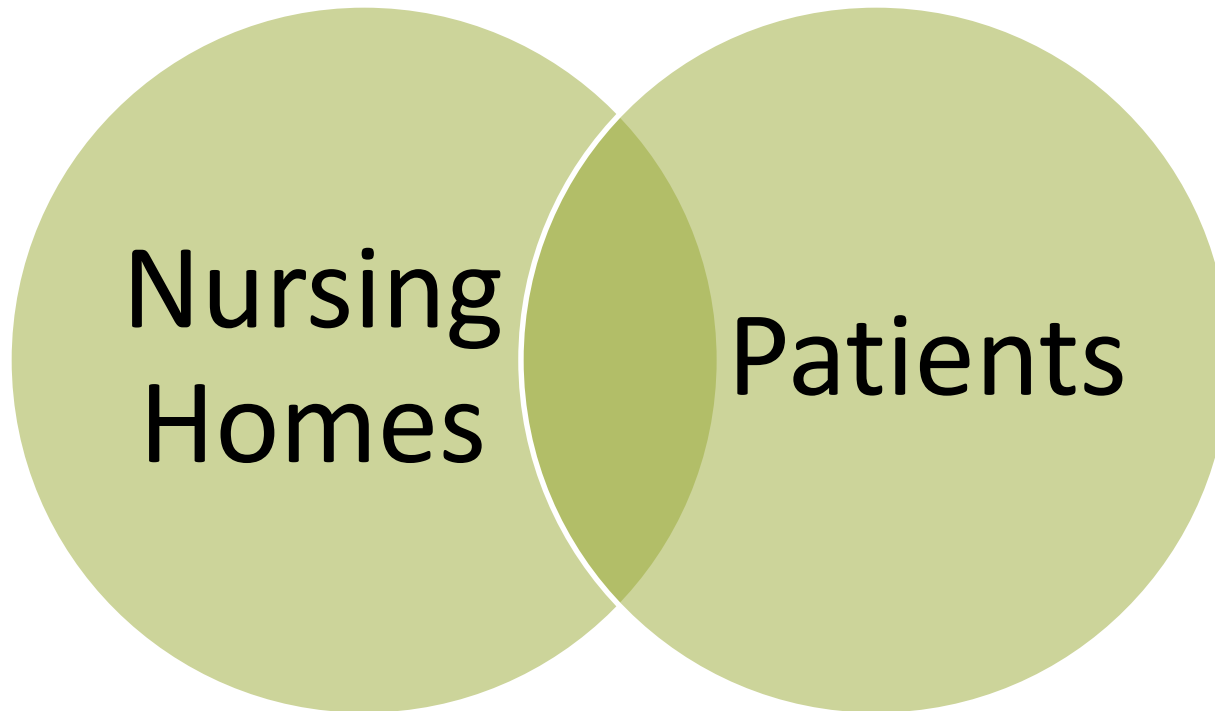
Who Benefits from - Prestige for the Nursing Home?

Nursing Homes

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Who Benefits from - Freeing up speech and language therapists' time?

SLT Depts.

Hospital Trusts
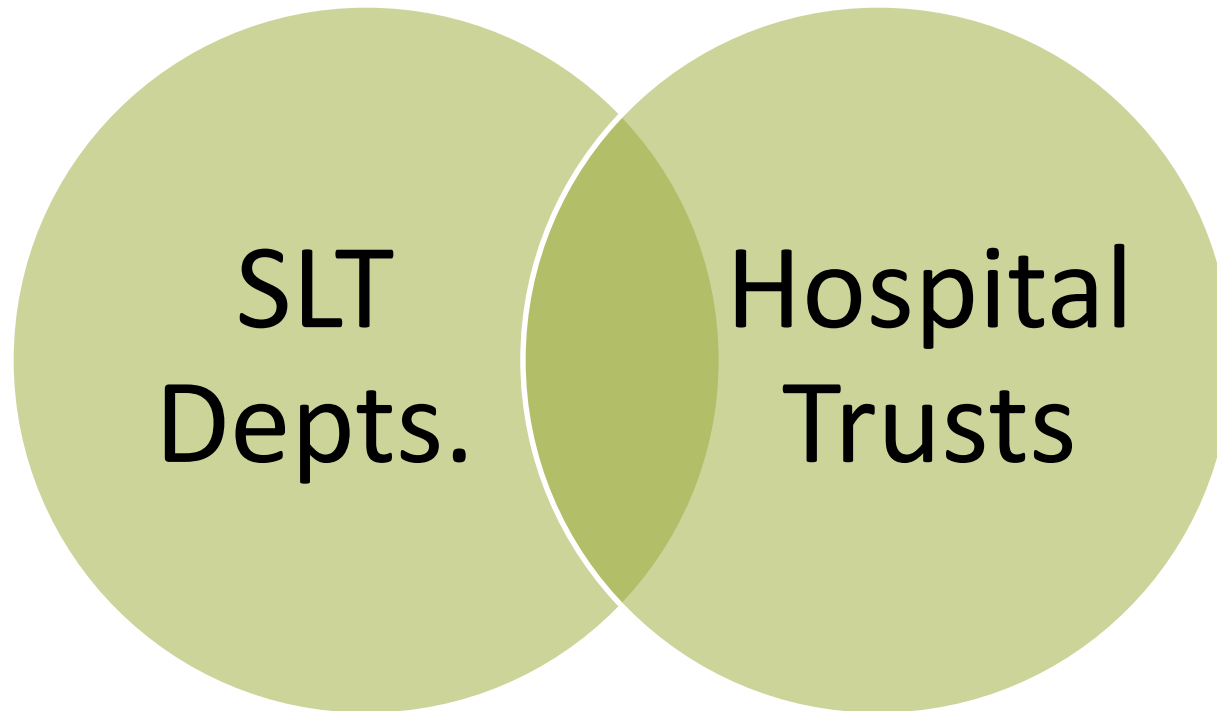
SLTs benefit least

- There were clear benefits for nursing homes, nursing home staff and patients; all nursing home informants reported benefits.

- Such benefits were perceived as 'gains'

- Alternatively, whilst SLTs were able to suggest 'potential' benefits they had not 'felt' these benefits. Nor were SLTs convinced of the usefulness of teleswallowing.

- SLTs' experience of teleswallowing was perceived as 'loss' rather than gain.

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Extension of teleswallowing

"I think initially you come up with lots of thoughts, is the clarity of the picture going to be good enough? Are the staff going to be trained enough? Initially I think … what would you call it? A kind of a letting go sort of thing, you know? Do I really want to let someone else be in charge of my swallow assessment? I want to be there and in control, it is, it's control isn't it? I felt, when it was explained to us, that I would be letting go of that control whereas that isn't actually the case at all" (SLT2).

Extension of teleswallowing

"This technology has the ability to cover so many different aspects other than swallowing … The first one that I witnessed, I was amazed and then my brain started to tick, I was thinking how many other things could we possibly use this for and there are so many other disciplines that could tap into this knowledge and could save so many hospital clinics and things like that; it was then that I started to get excited about it … There's tissue viability, there's continence, it would have a huge impact, falls, physio …" (Matron 4).

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Impact on bed days and unplanned admissions

None of the patients in the study required hospital admission

Prior history for the 17 patients showed that 9 of them had at least 3 previous admissions (range 3-22 episodes).

- Dysphagia only recorded as a symptom in one case
- 4 coded for respiratory conditions on multiple occasions
- NWAS data records A&E visits for the same patients, with more respiratory events recorded.

An assumption may be that in the past some of the A&E visits and hospital admissions for these patients was related to a condition that could be associated with dysphagia. Clearly faster assessment would avoid this.

However, this hypothesis cannot be proved until larger numbers of patient records are available for analysis.

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Conclusions:-

Teleswallowing benefited both patients and participating nursing homes

Potential benefits included a reduction in the SLT waiting list and SLT response times plus a reduction in SLT travel time and mileage costs.

Despite this, service transformation was hampered by a range of factors.

- A delayed start to the project reduced both the opportunity for ensuring readiness of the technology and numbers of patients assessed,

- This in turn affected therapists' confidence in the innovation and was exacerbated by staffing pressures within SLT which left some feeling already too overwhelmed to consider new ways of working.

- Therapists also raised professional concerns relating to accountability and the ongoing competencies of nursing home staff.

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Recommendations - technology

Reliable and easy to use technology (in line with other studies).

Technological problems were not anticipated in this second phase but were experienced nevertheless

- assessment of nursing home IT installations should be made at the start of any project
- adequate IT equipment and connections should be installed and in working order before training given and service delivery started
- clinical innovators should work closely with an identified, skilled IT colleague to ensure systems work efficiently and challenges resolved quickly to ensure confidence in the system

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Recommendations - staff

Studies have shown the importance of early successes (Odeh et al, 2014; Taylor et al, 2015).

In this instance experiencing early success was hampered by a delayed start to the project and by problems with technology

In turn this resulted in fewer referrals due to the reduced timeframe and thus fewer opportunities for learning. Therefore:

- Supported usage and time to engage in new service delivery methods is needed to ensure staff competency and confidence as opportunities to explore potential beneficial ways of working can be missed when staffing capacity is under pressure.

- Professional staff need assurance that the innovation is dependent upon their skills and knowledge so to dispel the belief that teleswallowing is deskilling

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Any questions?

Elaine.bidmead@cumbria.ac.uk

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