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What are the factors influencing the implementation of self-managed computerised therapy for people with long term aphasia following stroke? A qualitative study

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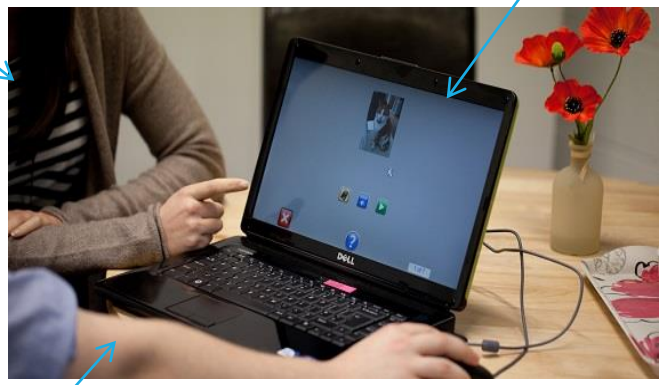
Background

- Speech and language therapy services for people with aphasia are often restricted to the first few months following a stroke due to limited NHS resources and the costs of face-to-face therapy provision (Code & Petheram 2011)
- To maximise recovery, a high dose of regular therapy practice over a long period is required (Brady et al 2016)
- Tailoring therapy to patient needs and interests is recommended for optimum effectiveness
- Need to find ways to enable more practice
- Using computers to carry out independent practice has been explored as one possible solution (Zheng et al 2016)

Computer aphasia therapy: approach to word finding therapy (Palmer et al 2015)

Volunteer to support language practice and computer use

StepByStep© software



SLT tailors software

Patients carry out regular independent self-managed practice

100 words of personal interest

Aim

To explore Speech and Language Therapists' experiences of carrying out a self-managed computerised intervention for aphasia, to identify and understand the key factors influencing implementation across NHS trusts.

Methods

- Qualitative semi-structured interviews
- 11 SLTs from across the UK, experienced in implementing technology as part of the Big CACTUS study
- Determinant framework informed the topic guide
  - Consolidated Framework for Implementation Research (Damschroder et al 2009)
  - Has been used by other studies into implementation in SLT
  - Topic guide questions related to each domain of framework
- Inductive Thematic Analysis

Domains and Constructs of the Consolidated Framework for Implementation Research (Damschroder et al 2009)

Implementation					
Domains	Intervention Characteristics	Outer Setting	Inner Setting	Characteristics of the Individual	Implementation Process

Constructs	• Intervention source
	• Evidence strength & quality
	• Relative advantage
	• Adaptability
	• Trialability
	• Complexity
	• Design quality & packaging
	• Cost
		• Patient needs & resources
		• Cosmopolitanism
		• Peer pressure
		• External policy & incentives
			• Structural characteristics
			• Networks & communications
			• Culture
			• Implementation climate
			  ○ tension for change
			  ○ compatability
			  ○ relative priority
			  ○ organisational incentives & rewards
			  ○ goals & feedback
			  ○ learning climate
			• Readiness for intervention
			  ○ leadership engagement
			  ○ available resources
			  ○ access to knowledge & information
				• Knowledge & beliefs about the intervention
				• Self-efficacy
				• Individual stage of change
				• Individual identification with organisation
				• Other personal attributes
					• Planning
					• Engaging
					  ○ opinion leaders
					  ○ internal implementation leaders
					  ○ champion
					  ○ external change agents
					• Executing
					• Reflecting & Evaluating

Results

Seven themes emerged from the data

1. advantages of the approach to self-managed computer therapy (therapist tailoring and assessment; independent practice and volunteer support)
2. considerations in setting up computer therapy for independent practice
3. volunteer/assistant considerations
4. local IT departments: processes and delays
5. disadvantages of personalising therapy software
6. therapist perceptions of factors influencing who can benefit from self-managed computer therapy
7. into the future: how the approach fits with local services and how would it need to be adapted for ongoing clinical practice

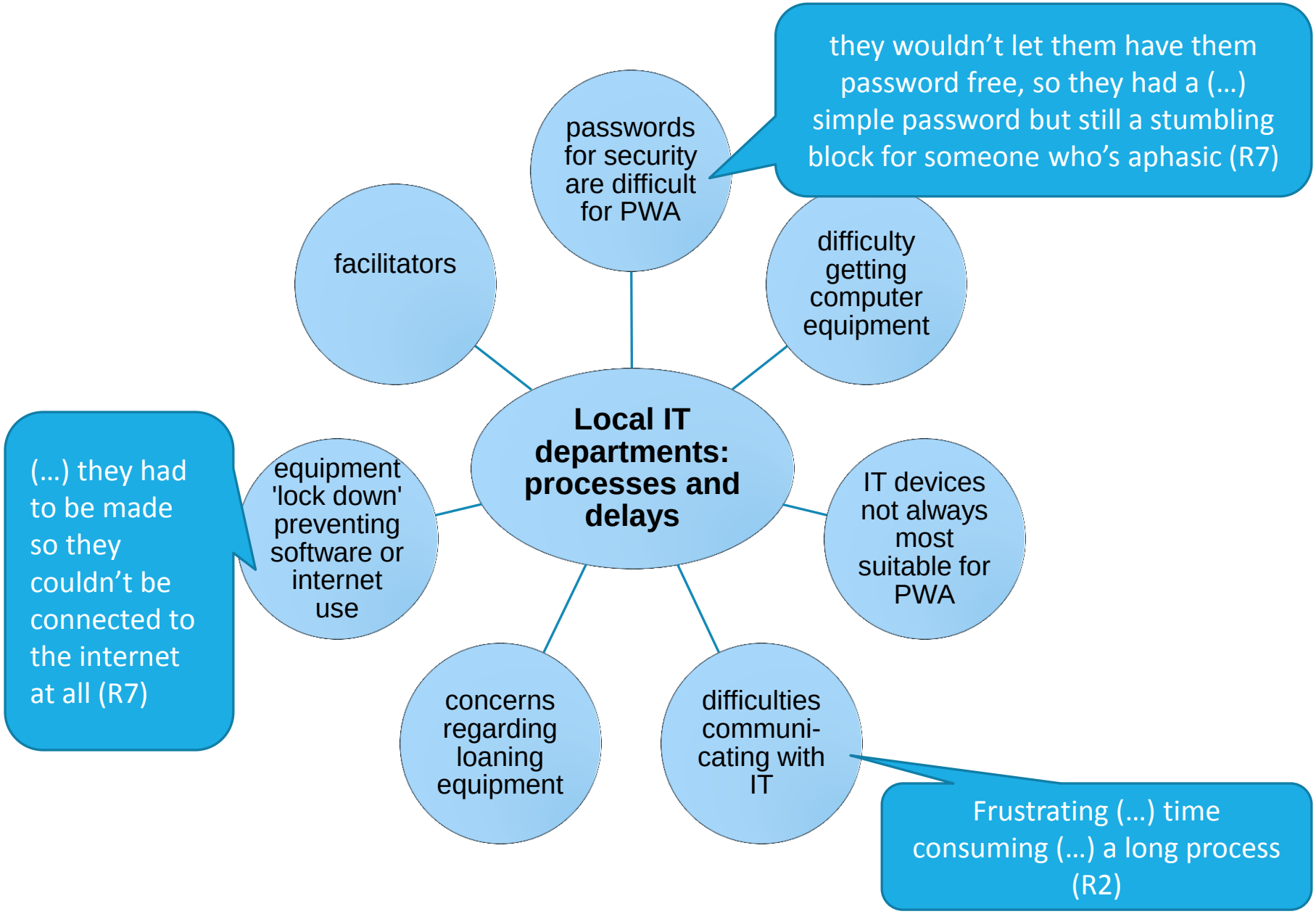
I do think those assistant visits are important just to keep on top of things and make sure that the person is doing it how you intended that they should do it, to be of the most benefit to them (R2)

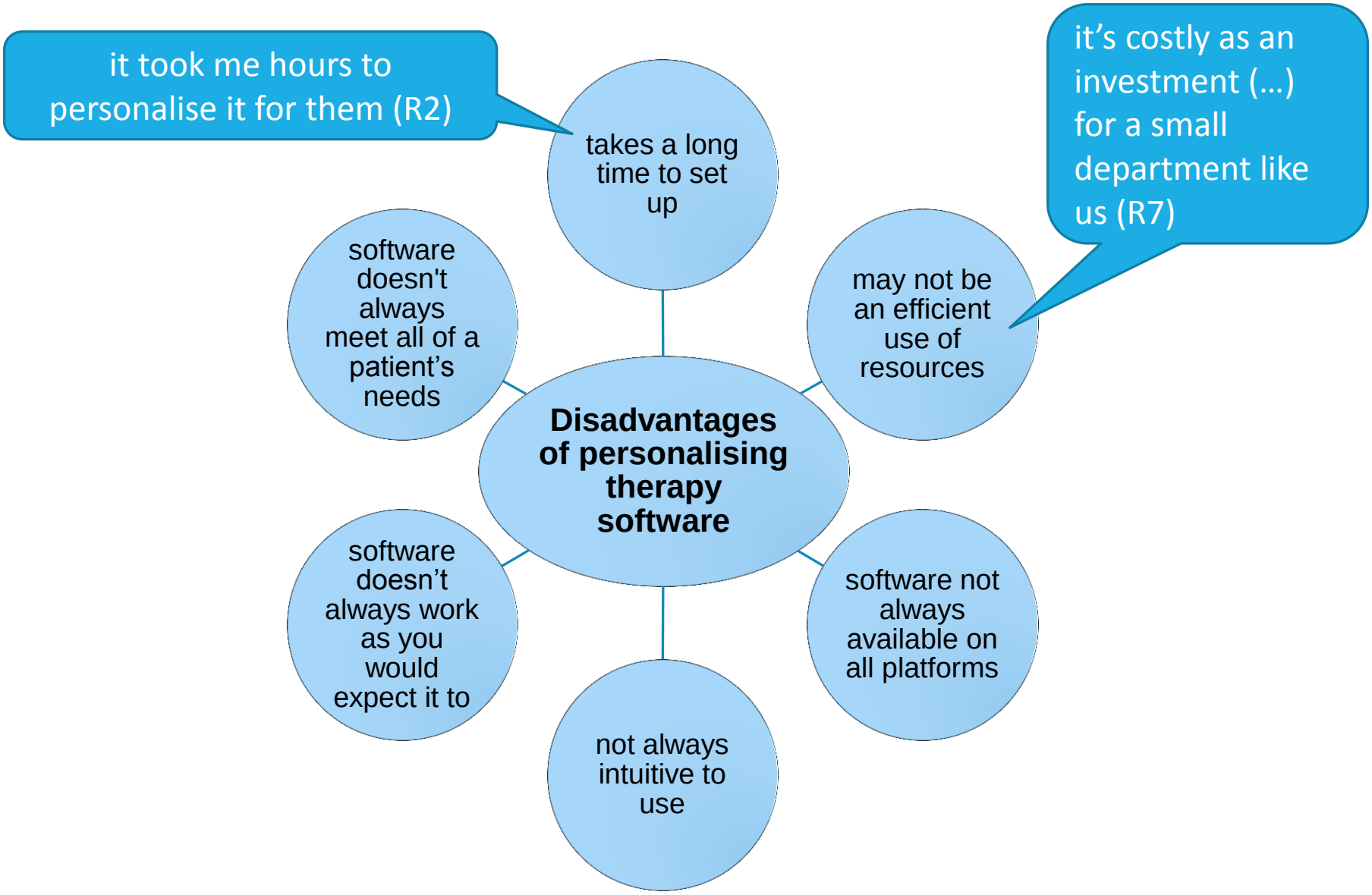
people more and more are using computers aren't they, and people ask (…) is there anything I can be doing on my computer at home. (R10)

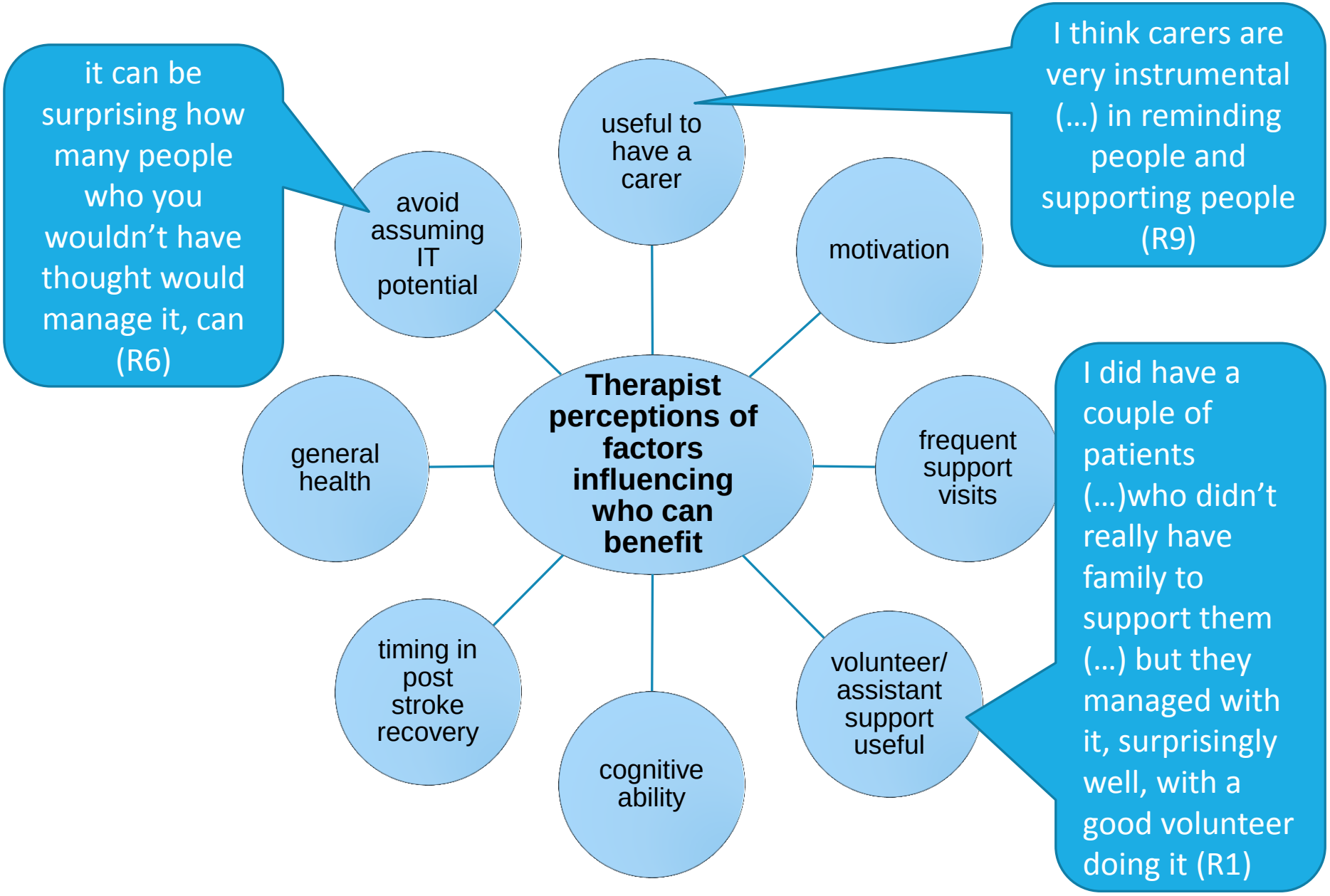
we don't have the staffing any more to provide the kind of 1:1 therapy that we used to (…) and being independent and people working by themselves is very much part of the push at the moment (R5)

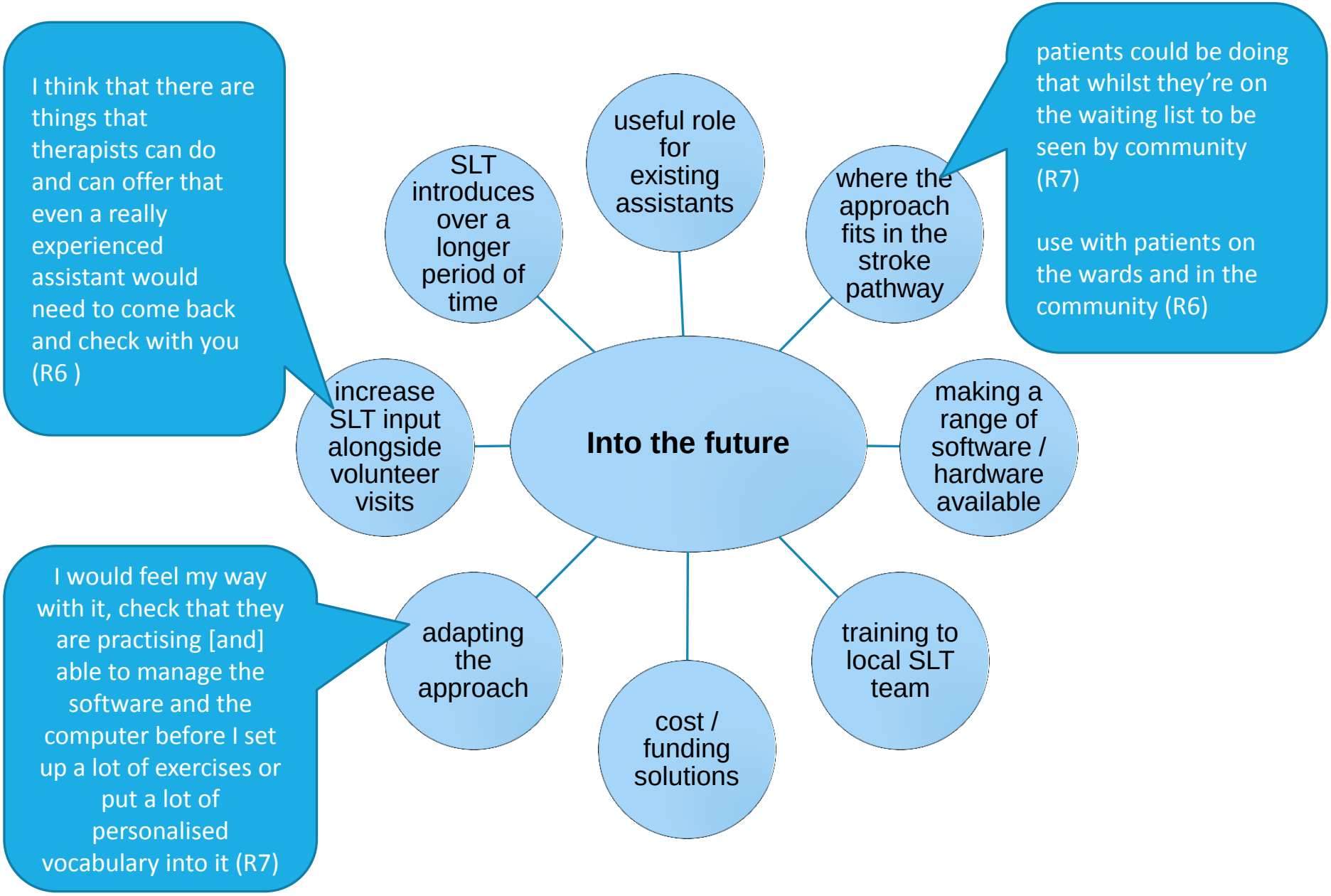
Considerations in setting up computer therapy for independent practice
set up is time consuming
worth investing the time
set up time decreases with experience
training needed
time needed to familiarise self with software
level of therapist IT skill
ongoing support needed
it's worth investing the time really if you can, and once you get going, it can be very valuable (R10)
getting familiar with it initially was a challenge (...) because technology for me isn't something that comes easily(R2)
it takes you a long while to get your head around it, I think it's very easy to underestimate the time that you need for that (R8)

I think student [volunteers] are a really good source (…) they were incredibly professional and flexible, and I really enjoyed working with them (R9)
volunteer/ assistant support useful
use of student SLTs
experience of working with client group useful
Volunteer/ assistant considerations
you've got to be really confident that they understand the software and how to tweak it (R6)
overseeing volunteers/ assistants requires therapist time
need to be skilled with software
advantages of paid assistants vs volunteers
volunteers come and go; they are quite hard to hang onto (R1)


they wouldn’t let them have them password free, so they had a (…) simple password but still a stumbling block for someone who’s aphasic (R7)
passwords for security are difficult for PWA
facilitators
difficulty getting computer equipment
Local IT departments: processes and delays
(…) they had to be made so they couldn’t be connected to the internet at all (R7)
equipment 'lock down' preventing software or internet use
IT devices not always most suitable for PWA
concerns regarding loaning equipment
difficulties communi-cating with IT
Frustrating (…) time consuming (…) a long process (R2)


it took me hours to personalise it for them (R2)
it's costly as an investment (…) for a small department like us (R7)
takes a long time to set up
software doesn't always meet all of a patient's needs
may not be an efficient use of resources
Disadvantages of personalising therapy software
software doesn't always work as you would expect it to
software not always available on all platforms
not always intuitive to use


it can be surprising how many people who you wouldn't have thought would manage it, can (R6)
I think carers are very instrumental (…) in reminding people and supporting people (R9)
Therapist perceptions of factors influencing who can benefit
useful to have a carer
avoid assuming IT potential
motivation
general health
frequent support visits
timing in post stroke recovery
cognitive ability
volunteer/ assistant support useful
I did have a couple of patients (…)who didn't really have family to support them (…) but they managed with it, surprisingly well, with a good volunteer doing it (R1)


I think that there are things that therapists can do and can offer that even a really experienced assistant would need to come back and check with you (R6)
patients could be doing that whilst they're on the waiting list to be seen by community (R7)
use with patients on the wards and in the community (R6)
I would feel my way with it, check that they are practising [and] able to manage the software and the computer before I set up a lot of exercises or put a lot of personalised vocabulary into it (R7)
Into the future
useful role for existing assistants
SLT introduces over a longer period of time
where the approach fits in the stroke pathway
increase SLT input alongside volunteer visits
making a range of software / hardware available
adapting the approach
cost / funding solutions
training to local SLT team

Key Learning Points from this research

- Supported self-managed computer therapy could help to increase intensity where staffing is limited, bridge a gap between services, and provide longer term management
- Tailoring software helps to meet different patient/service needs but requires SLT time up front
- SLT familiarisation with new software is required
- Select software that meets needs of patient and is intuitive
- Patients' previous experience with computers need not influence the decision to offer computer therapy
- Assistants/volunteers are key for supporting & facilitating self management with computer therapy
- Having a named contact in IT helps
- Funding options

Impact

Implementation of computer software to support self-managed practice of language exercises has the potential to impact:

- individuals with aphasia, by enabling them to have increased amounts of language therapy
- service delivery, by ensuring greater amounts of therapy provision within existing resources

This research suggests factors that therapists need to consider when implementing technology to increase the amount of therapy available

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Acknowledgements

- Thank you to all the Speech and Language Therapists for finding time in their busy schedules to take part in this study.
- The Big CACTUS study is independent research commissioned by the National Institute for Health Research (NIHR) under its Health Technology Assessment Programme (Grant Reference Number HTA 12/21/01). The views expressed are those of the authors and not necessarily those of the NHS, the NIHR or the Department of Health.
- Big CACTUS was also part funded by the Tavistock Trust for Aphasia