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STUDY PROTOCOL

Communication partner training for student health and social care professionals engaging with people with stroke acquired communication difficulties: A realist review. [version 1; peer review: 1 approved, 3 approved with reservations]

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Abstract

Background: Stroke acquired communication impairments impede effective communication. Consequently, in stroke care, communicative interactions can be challenging for both patients and staff and can predispose patients to increased risk of preventable adverse events. Communication partner training (CPT) can mitigate such negative outcomes by optimising communicative interactions. Providing CPT to student health and social care professionals (SH&SCPs) has the potential to enhance their clinical expertise and experiences and enhance the future clinical care of patients with stroke acquired communication impairments. This research aims to expand our understanding of how CPT is operationalised for SH&SCPs in higher education institutions and determine: what works; for whom; in what contexts; how and why?
Methods: This review is phase 1 of a research project employing a realist approach with public and patient involvement (PPI). It incorporates five iterative steps: 1.) Clarifying the scope; 2.) Searching for evidence; 3.) Selecting and appraising evidence; 4.) Data extraction; 5.) Synthesising data and developing a middle range theory explaining how CPT is expected to work for SH&SCPs. An advisory group, including PPI advisors, content experts, SH&SCPs and

Open Peer Review

Approval Status ? ? ✔ ?

	1	2	3	4
version 2 (revision) 17 Apr 2024				
version 1 10 Oct 2023	? view	? view	✔ view	? view

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realist experts has been set up to consult throughout the review and collaboratively agree the middle range theory.

Discussion: While there is an evolving evidence base for CPT, including stroke specific CPT for SH&SCPs, it is acknowledged that there are challenges to its implementation in complex real-world settings. In combining empirical evidence with theoretical understanding, realist review permits synthesis of data from diverse sources and goes beyond determining efficacy to explore generative causation and solutions for real world practice. A middle range realist programme theory that coherently explains how CPT is expected to work when teaching SH&SCPs to communicate with people with stroke acquired communication impairments will provide educators with new insights into CPT development and implementation in their higher education institutions.

Keywords

Communication partner training, student health and social care professionals, stroke, aphasia, acquired apraxia of speech, dysarthria, cognitive communication disorder, public and patient involvement

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This article is included in the Public and Patient Involvement collection.

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Author roles: Fitzmaurice Y: Conceptualization, Methodology, Project Administration, Writing – Original Draft Preparation, Writing – Review & Editing; **Beeke S**: Conceptualization, Supervision; **Isaksen J**: Conceptualization, Supervision, Writing – Review & Editing; **Cunningham U**: Writing – Review & Editing; **Jagoe C**: Writing – Review & Editing; **Shé ÉN**: Writing – Review & Editing; **McMenamin R**: Conceptualization, Supervision, Writing – Review & Editing

Competing interests: No competing interests were disclosed.

How to cite this article: Fitzmaurice Y, Beeke S, Isaksen J *et al*. **Communication partner training for student health and social care professionals engaging with people with stroke acquired communication difficulties: A realist review. [version 1; peer review: 1 approved, 3 approved with reservations]** HRB Open Research 2023, **6**:60 https://doi.org/10.12688/hrbopenres.13783.1

First published: 10 Oct 2023, **6**:60 https://doi.org/10.12688/hrbopenres.13783.1

Abbreviations

CPT: Communication partner training; SH&SCPs: Student health and social care professionals; IPT/s: Initial programme theory/theories; C: Context; M: Mechanism; O: Outcome; CMOC: Context, mechanism, outcome configuration; PPI: Public and Patient Involvement; TDF: Theoretical Domains Framework; BCW: Behaviour Change Wheel

Introduction

Stroke acquired communication impairments

In 2019 the global incidence of stroke was reported to be 12.2 million and stroke was reported as the third leading cause of death and disability resulting in 143 million people living with "disability-adjusted life-years" (Stark *et al.*, 2021, p. 795). Among these life adjusting disabilities are the communication impairments aphasia, dysarthria, apraxia of speech and cognitive communication disorders (Baker *et al.*, 2022). These impairments (overviewed in Table 1) can occur in isolation or in varying combinations and with varying severities. Their incidence and prevalence will increase in the coming decades in line with the predicted increased incidence of stroke world-wide (Stark *et al.*, 2021). Specific to the European Union, Wafa *et al.* (2020) anticipate that the people living with stroke will have increased by 27% between 2017 and 2047. Studies reporting on the specific incidence and prevalence of stroke acquired communication impairments are variable, for example, they differ in geographical origins, number of participants and designs and methods (Frederick *et al.*, 2022; Mitchell *et al.*, 2021). Hence, there are variations across reports with aphasia impacting 7% to 77%, dysarthria impacting 24% to 69% and a combination of dysarthria and aphasia impacting 4% to 29% (Ali *et al.*, 2015; De Cock *et al.*, 2020; Dickey *et al.*, 2010; Flowers *et al.*, 2013; Frederick *et al.*, 2022; Mitchell *et al.*, 2021; Stipancic *et al.*, 2019).

Data on incidence of stroke acquired apraxia of speech is sparse and challenging to report on given that acquired apraxia of speech rarely exists in isolations but typically co-occurs with aphasia and/or dysarthria (Duffy, 2020). Regarding cognitive communication disorders associated with acute stroke, Riepe *et al.* (2004) reported that up to 77% exhibited cognitive impairment.

The stroke acquired communication impairments outlined in Table 1 present chronic, multifaceted challenges for the individuals presenting with the impairment/s and for those interacting with them (Ali *et al.*, 2015; Chang *et al.*, 2018; Mitchell *et al.*, 2021; Wray *et al.*, 2019). They can mask the individual's inherent competency and result in communicative interactions that are negative for all interlocutors (Carragher *et al.*, 2020; Kagan *et al.*, 2001; Kagan *et al.*, 2018; van Rijssen *et al.*, 2021). Unsuccessful communication predisposes patients to increased risk of adverse hospital events (Bartlett *et al.*, 2008; Hemsley *et al.*, 2013); loss of autonomy and exclusion from participation in care related decisions (Brady *et al.*, 2011; Carragher *et al.*, 2020; O'Halloran *et al.*, 2012). Additionally, there is increased risk of depression and anxiety (Shehata *et al.*, 2015; Zanella *et al.*, 2023).

When communication with patients is challenging, health and social care professionals can experience emotions such as frustration, impatience and guilt (Carragher *et al.*, 2020; Hur & Kang, 2022). Consequently, they can limit their time interacting with people with communication impairments (Carragher *et al.*, 2020). Student health and social care professionals experience similar emotions. Rathiram *et al.* (2022, p. 5) reported that SH&SCPs felt "emotionally strained, frustrated and helpless" when they could not understand their

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Table 1. Overview of stroke acquired communication disorders.

Impairment	Common clinical manifestations
Aphasia	Aphasia can impair an individual's ability to express themselves; understand what others are saying or read and write. In mild cases there can be word finding difficulties and difficulty understanding complex written and/or verbal instructions. In severe cases, it may be difficulty to verbalise, write or understand even single words.
Dysarthria	Dysarthria, an umbrella term for a group of speech disorders, reflects abnormalities in strength, speed, range, steadiness, tone, or accuracy of movements required for speech production (Duffy, 2020, p. 3). Intelligibility of speech is impacted. Speech may be imprecise, slow, monotonous or low in volume. In mild cases an individual may have to occasionally repeat themselves to be understood. In severe cases speech may be entirely unintelligible.
Acquired Apraxia of Speech	Typically an individual knows what they want to say, but cannot produce and sequence sounds correctly in words. Speech can be slow and monotonous with reduced intelligibility. Automatic speech is better preserved than volitional speech. In mild cases intelligibility may be minimally impaired. In severe cases an individual may have difficulty producing any sounds or words. Acquired apraxia of speech rarely occurs in isolation, but co-exists with aphasia or dysarthria.
Cognitive Communication Disorder	Cognitive communication difficulties result from impairment to underlying cognitive functions such as memory, executive function, and attention. They have variable presentations and can include difficulties turn-taking in conversation; staying on topic; attending to and recalling specific details and giving information in the correct sequence.

patients. In order to prevent these negative experiences health and social care professionals and SH&SCPs want to learn how to communicate successfully with people with communication difficulties (Carragher *et al.,* 2020; Hur & Kang, 2022). Furthermore, people with aphasia believe that training health care providers in the use of communication strategies is important in enabling them to live successfully with the communication impairment (Manning *et al.,* 2019). CPT can provide the necessary learning opportunities.

Communication Partner Training (CPT)

CPT is defined by Cruice *et al.* (2018, p.1) as an "umbrella term for a complex, behavioural intervention" that has many interacting components that are delivered in flexible ways. It is also described as an environmental intervention (Simmons-Mackie *et al.,* 2010; Simmons-Mackie *et al.,* 2016) as people around the person with communication impairment/s (*i.e.,* the communication partners) adjust their behaviour and use communicative strategies and resources to facilitate information exchange (Simmons-Mackie *et al.,* 2010; Simmons-Mackie *et al.,* 2016). Such strategies and resources may include non-verbal cues such as gesture and pointing; personally relevant communication books and folders; applications on smart devices; writing; visual aids (*e.g.,* maps, photo diaries) and modified verbal expression (*e.g.,* slowed rate, using key words and short phrases). CPT can be successfully employed with multiple communication partners including health and social care professionals, SH&SCPs, family members, volunteers and people with communication impairments (Beeke *et al.,* 2018; Cameron *et al.,* 2018; Forsgren *et al.,* 2017; Isaksen *et al.,* 2023; Kagan *et al.,* 2001; Rayner & Marshall, 2003). Importantly, CPT has the potential to pre-empt communicative challenges for our future frontline staff and enhance future clinical care for patients with stroke acquired communication impairments.

Employing realist review in CPT research

Realist review is a systematic, "theory driven, interpretative" (Duddy & Wong, 2023 p. 1; Jagosh *et al.,* 2014, p. 131) approach that facilitates the synthesis and evaluation of data of diverse methodologies and origins. It focuses on combining empirical evidence with theoretical understanding (Schick-Makaroff *et al.,* 2016) in programme theory development. As Wong *et al.* (2012, p.93) state, the premise underpinning realist review is that a specific intervention or class of interventions "trigger particular mechanisms somewhat differently in different contexts", hence, as is the case in CPT research, outcomes vary across contexts. During programme theory development context, mechanism and outcome configurations (CMOCs) are employed to coherently explain how and why contextual variables influence intervention outcomes. Ontologically rooted in realism and aligned with Bhaskar's stratified reality (Bhaskar, 1997), realist review explores both the visible and hidden forces that generate the outcomes of interest (Jagosh *et al.,* 2014). From a realist standpoint, a behavioural intervention such as CPT is conceptualised to operate in open systems where the intervention changes the

system and the system changes the intervention (Pawson *et al.,* 2004; Pawson *et al.,* 2005). Realist review aims to address the real word complexity and fluidity of these operating systems by going beyond simply asking if an intervention works and exploring generative causation to determine for whom it works, under what conditions, to what extent, how and why? Employing a realist approach has the potential to enhance existing knowledge and practice in stroke specific CPT for SH&SCPs. It can build on the current evidence base, which is predominantly impairment (aphasia) and context (chronic status) specific (Simmons-Mackie *et al.,* 2016). It can address persisting theoretical and implementation gaps by explaining the relationship between specific contextual variables and the mechanisms they trigger to enact the reasoning and responses that bring about the intended or unintended outcomes (Dalkin *et al.,* 2015; Wong *et al.,* 2013).

Research on stroke specific CPT predominantly focuses on Aphasia (Chang *et al.,* 2018) with an established evidence base underpinning recommendations for use of CPT for people with chronic aphasia (Simmons-Mackie *et al.,* 2010; Simmons-Mackie *et al.,* 2016). This includes established evidence for use of CPT with medical students (Legg *et al.,* 2005). However, given that there is a high incidence of varied and co-occurring post stroke impairments across the acute to chronic care continuum, these recommendations, while very essential in the management of aphasia, do not comprehensively address the prevailing clinical realities of health and social care professionals or SH&SCPs working with people post stroke. Chang *et al.* (2018), surveying CPT practices of 122 Australian speech pathologists found that clinicians implementing CPT in clinical stroke settings adapt aphasia specific CPT programmes for use with the broader array of impairments. Correspondingly, in the literature there is increasing recognition of the need to develop CPT for a broader range of acquired impairments that address clinical reality (Chang *et al.,* 2018; O'Rourke *et al.,* 2018; Simmons-Mackie *et al.,* 2016; Tessier *et al.,* 2020). Studies addressing CPT for the broader range of stroke acquired communication impairments with SH&SCPs are emerging (*e.g.,* Baylor *et al.,* 2019; Burns *et al.,* 2017; Forsgren *et al.,* 2017; Mach *et al.,* 2022). While the number of studies is small, they represent an important evolution in CPT development for SH&SCPs and this review aims to build on and potentially enhance this development. In realist review, demi-regularities or "semi-predictable patterns of occurrence" (Cunningham *et al.,* 2021, p. 4) are explored across interventions and domains (such as health care and education) to uncover "families of mechanisms" (Pawson, 2002, p. 344) in programme theory development. Adhering to realist philosophy, it is these "families of mechanisms" (*e.g.,* incentivisation, persuasion) rather than "families of interventions" that trigger change and enact outcomes (Pawson, 2002, p.344; Wong *et al.,* 2012, p. 94). By building on current knowledge and uncovering relevant "families of mechanisms", this review, may enhance and potentially accelerate development and implementation of stroke specific CPT for SH&SCPs in clinical education.

The need to explore an approach to data synthesis that can accommodate all valuable research data is highlighted by Simmons-Mackie *et al.* (2016). In their updated systematic review, the authors reported on the emergence of studies addressing the efficacy of CPT use with the broader range of stroke acquired communication impairments and a promising new trend of studies, attempting to manage clinical reality and the feasibility of CPT implementation in complex settings. However, all of these studies were rated too low on the American Academy of Neurology levels of evidence (2011) for efficacy or effectiveness to provide recommendations for clinical practice. Given that realist review accommodates the synthesis and evaluation of data of diverse methodologies and origins, it can build on existing empirical findings from systematic reviews; overcome the challenge of accommodating all valuable research findings in the final analysis, and provide clinicians and educators with augmented theoretical and practical guidance for the development and implementation of CPT.

The value of theory driven CPT interventions and implementation strategies is increasingly recognised in the literature (Chang *et al.,* 2018; Cruice *et al.,* 2018; Shrubsole *et al.,* 2023). However, theoretical approaches are not in mainstream use and given the vast array of behaviour change and implementation theories in existence it is a challenge for researchers to select the best fit (Eccles *et al.*, 2012; Shrubsole *et al.*, 2019). Shrubsole *et al.* (2019) argue that the potential contribution of different theories is unclear given that they have not been consistently applied to health professional's behaviour or in this case, we argue, SH&SCPs' behaviour. Also, as McGowan *et al.* (2020) point out, selecting only one or a few theories in behaviour change research and intervention puts the researcher at risk of omitting relevant factors. Notably, frameworks such as the Behaviour Change Wheel (BCW) (Michie *et al.,* 2011) and the Theoretical Domains Framework (TDF) (Atkins *et al.,* 2017; Cane *et al.,* 2012; Michie *et al.,* 2005), developed from synthesising theories and constructs, are being used more frequently in CPT research and other general research in acquired communication disorders (Behn *et al.,* 2020; Chang *et al.,* 2018; Johnson *et al.,* 2017; van Rijssen *et al.,* 2021). A realist approach considers existing substantive theories in programme theory formation. Consequently, it has the potential to overcome "best fit" challenges while building on existing theoretical understanding. Also, unlike other theoretical approaches, which can be limited in their ability to address multiple pertinent questions, realist review applies realist logic to answer the necessary range of pertinent questions - what works, for whom, under what conditions, to what extent, how and why? (Pawson *et al.,* 2004; Wong *et al.,* 2012; Wong *et al.,* 2013). Answering such questions can strengthen current CPT research and practice by explaining "the success, failure" and "mixed fortunes" of this complex intervention (Wong *et al.,* 2013, p.1). Importantly, addressing these questions allows us to look beyond determining efficacy to determining necessary solutions for real world practice in higher education institutions.

Methods

Aims and objectives

This review is the first phase of a PhD project. The project aims to employ a realist approach, including realist review and realist evaluation, in combination with public and patient involvement (PPI). The primary aim of the realist review is the synthesis of secondary data from varied relevant sources into a plausible and coherent middle range theory. This theory will explain how CPT is expected to work when teaching SH&SCPs to communicate with people with stroke acquired communication impairments. It will undergo further appraisal and development during realist evaluation, the third phase of this project, in consultation with PPI advisors who are consulting across all phases of this project.

A protocol for this review has been registered on PROSPERO on 01/05/2023 (CRD42023418951).

Realist terminology relevant to all phases of this project is presented in Table 2.

Questions

In order to determine how SH&SCPs learn to communicate optimally with people with stroke acquired communication impairments, we pose the following questions:

- What CPT interventions are used for SH&SCPs in higher education institutions?

- What are the desired, achievable outcomes of CPT in higher education institutions?

- For whom do these interventions work (or not) (*e.g.,* which SH&SCPs and at what stage of their training; people with communication difficulties)

- What contexts are enabling/inhibitory?

- How do these interventions work (what mechanisms are enabled in specific contexts to operationalise desired/undesired/unexpected outcomes)?

Steps in this realist review

While there are guiding principles around conducting a realist review there is no one prescribed method (Hunter *et al.,* 2022) and this can result in variability across reviews and lack of clarity on key stages in the review process (Booth *et al.,* 2019). This protocol aims to present a clear and transparent review process guided by Pawson *et al.*'s (2005) five key iterative steps in realist review; the Realist And Meta-narrative Evidence Syntheses—Evolving Standards quality and publication standards for realist reviews (Wong *et al.,* 2013) and a range of protocols, methodological papers and reviews of and recommendations for practice including Booth *et al.* (2019); Dada *et al.* (2023); Duddy & Wong (2023); Rycroft-Malone *et al.* (2012); Saul *et al.* (2013), and Wong (2018). Also integral to this review is the establishment of an advisory group to consult over the course of the review and collaboratively agree the finalised middle

Table 2. Explanation of realist terminology employed across all phases of research project.

Concept	Explanation
Context (C)	"Any condition that triggers and/or modifies the behaviour of a mechanism" in the generation of outcomes (Duddy & Wong, 2023 p.3). Contexts may be social, psychological, material, organisational, economic etc. (http://www.ramesesproject.org/media/RAMESES_II_Context.pdf).
Mechanisms (M)	Underlying entities, forces or processes which operate in particular contexts to enact outcomes (Astbury & Leeuw, 2010). They change the "reasoning and responses" of individuals to enact outcomes (Dalkin *et al.*, 2015) and are frequently hidden (Jagosh, 2019).
Outcome (O)	The consequence of the intervention. May be visible, measurable, proximal, distal, intended and/or unintended (Jagosh *et al.*, 2014).
Context, mechanism, outcome configuration (CMOC)	A description explaining the relationship between specific context(s), mechanism(s) and outcome(s). (Duddy & Wong, 2023, p.3).
Initial programme theory (IPT)	IPT/s "set out how and why a class of intervention is thought to 'work' to generate the outcome(s) of interest" (The RAMESES Project (www.ramesesproject.org) ©2014 p.4). May be expressed as "If.., then..." statements or CMOCs. It may be proven/disproven/amended during the synthesis process.
Middle range programme theory	The term "middle –range" is an adjective used to describe the level of abstraction of a theory. At the middle-range there is abstraction, but the theory is close enough to observable data to be usable and enable empirical testing. (Merton, 1967; http://www.ramesesproject.org/media/RAMESES_II_Theory_in_realist_evaluation.pdf). It is expressed as CMOCs.
Programme theory	An abstracted description and/or diagram that describes what an intervention or family of interventions comprises and how it is expected to work (Duddy & Wong, 2023).
Demi-regularity	"Semi-predictable pattern of occurrences" within data (Cunningham *et al.*, 2021, p.4).
Generative causation	The understanding that hidden mechanisms enact outcomes (Jagosh, 2019).
Retroduction	The reasoning involved in discovering or "unearthing" causal mechanisms (Jagosh, 2019, p. 364).

range programme theory. At this point, the advisory group has been established and Step 1 of the review has been completed. Step 2 is underway. Given that the review process is iterative, overlap across steps and backward forward movement is anticipated throughout the process. Figure 1 overviews the review process in the context of the wider project.

Set up review advisory group

Duddy and Wong (2023, p.1) describe realist review as a "flexible, iterative and practical" approach to evidence synthesis that draws on the expertise of a variety of relevant stakeholders. Consequently, when undertaking a realist review a high level and variety of knowledge and expertise is required (Saul *et al.*, 2013). In order to realise such expertise and knowledge, this review adopted a collaborative model incorporating an advisory panel (Davies *et al.*, 2019; Shé *et al.*, 2018). The composition of the advisory panel is as follows:

- Four content advisors: Advisors with content expertise and in-depth and up to date knowledge of the subject matter are pivotal to the successful execution of the realist review (Shé *et al.*, 2018). The content advisors on this review are the PhD candidate (YF) who is an

experienced speech and language therapist and university teacher and her three supervisors (RMcM, SB & JI), three academic researchers in the field of speech and language therapy. All have specific expertise in the development and application of CPT and PPI.

- Three realist advisors: Duddy and Wong (2023) emphasise that methodological assistance from people experienced in the realist approach is also vital in the execution of the review. Realist advisors (UC, CJ & ÉNíS) on this project all have the requisite expertise in the realist approach with publications in peer reviewed international journals. All were invited to collaborate by YF & RMcM.

All content and realist advisors are authors on this protocol.

- People with lived experience of stroke acquired communication impairments/PPI advisors: Involving people with the "lived experience" in research can have multiple benefits including improved quality, relevance, impact, integrity and waste avoidance (Dawson *et al.*, 2020; Hersh *et al.*, 2021; Staniszewska & Denegri, 2013; Tomlinson *et al.*, 2019). Two people with stroke acquired communication difficulty who are experienced co-trainers and participants on the CPT programme at University of
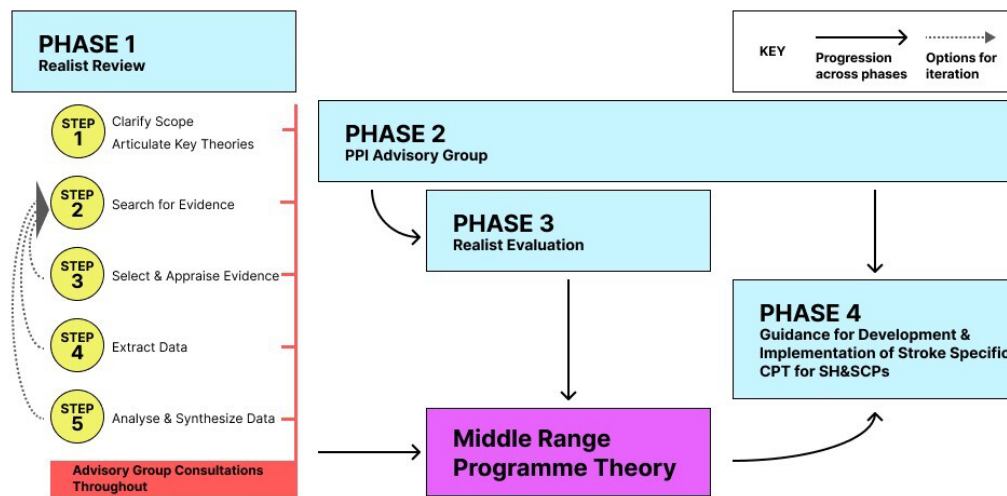
Figure 1. Project flow chart.

Galway were purposively selected by YF and RMcM and invited to collaborate by YF. The spouse of one of the advisors, purposively selected by YF, was also invited to consult on the review by YF.

- Student advisors: Involving students, the knowledge users, enhances the usability of the review products and strengthens links to practice (Saul *et al.,* 2013 p. 15). Undergraduate students who participated on CPT at University of Galway during the academic years 2022 and 2023 were invited to consult on the advisory group by YF. Four agreed to do so.

- A medical educationalist, invited by YF and RCM, also agreed to consult as required on the project. This advisor provides in-depth and up to date knowledge from an educational perspective.

It is notable that on this advisory panel, and subsequently as PPI advisors across all phases of this research project, people with stroke acquired communication are collaborating as equal partners. Successfully negotiating complexity, such as realist theory development and refinement, with people with stroke acquired communication impairments, requires careful consideration and accommodations (Hersh *et al.,* 2021). As a population they tend to be underrepresented in research activities that require equal collaborations (Jimoh *et al.,* 2021; McMenamin & Pound, 2019; McMenamin *et al.,* 2021). In this project the PhD candidate YF, is an experienced speech and language therapist. This according to Cascella & Aliotta (2014) renders her uniquely skilled in facilitating inclusive communicative interactions with people with acquired communication impairments. Supportive communication strategies and accommodations are being employed across all phases of the project to facilitate the collaborative consultative process (Herbert *et al.,* 2019; Rose *et al.,* 2011). Also, "Top tips" for researchers including people

with aphasia in research outlined in McMenamin *et al.* (2021 p.17) are being adhered to.

Step 1

A. Clarify scope
The review questions were conceptualised by the content experts and refined in consultation with the realist advisors. The questions aim to address shortcomings in the current knowledge base and facilitate realist enquiry.

B. Articulate key theories to be explored
Concurrent with question refinement was initial programme theory (IPT) development. This is a fundamental, early step in a realist review (Pawson *et al.,* 2004; Wong, 2018). Our IPTs set out how CPT for SH&SCPs is thought to work. They will be subject to testing and refinement in the subsequent synthesis process of this review. Figure 2 overviews the IPTs development process.

Preliminary IPTs were developed by content experts, guided by their insights into CPT, their knowledge of literature on the topic, and an additional literature scoping exercise. YF formulated initial theories in the form of "If.., then…" statements. These were modified and refined iteratively over a five-month period in consultation with the other content experts. This process generated nine "if.., then…" statements which were presented in context, mechanism, outcome configurations (CMOCs). In consultation with realist advisors the CMOCs were developed further and amalgamated into a graphically presented, overarching IPT. This overarching graphic was additionally reviewed by a medical educationalist. Narrative and graphic IPTs were then presented to student advisors and advisors with lived experience for review and revision. Final revisions were made in consultation with realist advisors. Narrative IPTs are presented in Table 3. Figure 3, graphically presents the amalgamated IPT, theorising
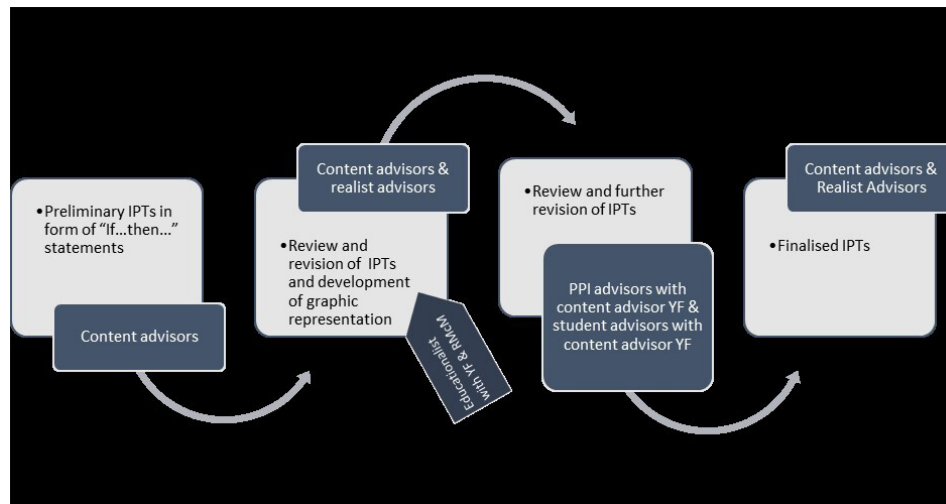
Figure 2. IPT development process.

how SH&SCPs can progress to being positive, productive communication partners, or not, and the reasoning and responses enacted along the way.

Step 2 Search for evidence

This review aims to include a variety of articles and documents that address the review questions and can contribute to programme theory development and refinement (Davies *et al.,* 2018; Luetsch *et al.,* 2020). In line with the realist approach this search for relevant articles and documents will be iterative and conducted in collaboration with a research services librarian. The search progression will be responsive to emergent data and developing understanding and insight (Booth *et al.,* 2019; The RAMESES Quality Standards for Realist Synthesis, The RAMESES Project (www.ramesesproject.org) ©2014). A concept-based search strategy, devised by YF in collaboration with the research services librarian and content experts, will direct an initial pilot search and data extraction (see Table 4). The search strategy will subsequently be refined iteratively and collaboratively with the advisory group. The searches will include peer reviewed journals, international best practice statements and clinical guidelines and conference proceedings. The following electronic data bases will be searched: Medline, EMBASE, CINAHL, APAPsycINFO and Web of Science. As outlined in our review protocol registered on PROSPERO (CRD42023418951), building from previous reviews (Simmons-Mackie *et al.,* 2010; Simmons-Mackie *et al.,* 2016; Tessier *et al.,* 2020) searches of peer reviewed literature will be limited to the English language and by date – from January 2019 to the time of the review. Relevant studies in the previous reviews will be included for analysis. Supplementary searches will include hand searches of reference lists, and requests for unpublished studies/programmes from key authors. Search alerts will be in place to identify studies relevant for inclusion prior to final analysis.

Step 3 Select and appraise evidence

YF will perform the Title/Abstract screening and select documents consistent with preliminary inclusion criteria, that is, CPT for health and social care professionals or SH&SCPs addressing stroke acquired communication impairments. A random 20% selection will be reviewed by RMcM. Potential disagreements will be resolved through discussion and consensus of a third author as required. Endnote 20 will be the reference management system used and Covidence 2.0 systematic review software will be used to screen titles and abstracts.

In realist reviews, inclusion of data is determined by their ability to assist in the development and refinement of programme theory or theories. Hence, multiple and varied data sources are considered for inclusion (Wong, 2018). Applying quality scales or tools to such data sources risks excluding data that are essential for programme theory development. Therefore, in line with Price *et al.* (2021) in their realist review on remediating doctors' performance to restore patient safety, formal quality appraisal tools will not be used in this review, on the basis that they are not sensitive to how data within papers contribute to programme theory development. Also, specific to CPT research, the application of quality scales has previously highlighted variable methodological quality of studies (Cherney *et al.,* 2013; Simmons-Mackie *et al.,* 2016). Simmons-Mackie *et al.* (2016) recommend that the purpose of the study must also be considered when assessing its value and Pawson *et al.* (2005, p. 24) recommend that when undertaking a realist review judgement around "fitness for purpose" needs to be made.

In accordance with The RAMESES Quality Standards for Realist Synthesis The RAMESES Project (www.ramesesproject.org) ©2014; Booth *et al.* (2013); Wong (2018), and Dada *et al.* (2023) any section of a document included in this review will be appraised for:

Table 3. Narrative presentation of IPTs for stroke specific CPT for SH&SCPs.

Context IF	Mechanism THEN	Outcome AND
1. There is embedded support for the biopsychosocial model of disability in department/ school/organisation	Educators: • Are motivated to promote learning on medical and social models of disability • Recognise the value of active participation of people with stroke acquired communication difficulties in health care and society • Recognise the inherent competency of people with stroke acquired communication difficulties • Appreciate the need to develop students' abilities to use supportive communication techniques and strategies when communicating with people with stroke acquired communication difficulties	Educators: • Desire to accommodate comprehensive CPT underpinned by social model of disability in curriculum • Given resource limitations there is a willingness to implement "condense" version of CPT, which includes perceived fundamental programme elements, into curriculum (e.g., lecture on communication impairment and supportive communication strategies and techniques).
2. There is a commitment to inter-professional learning	• There is integration of knowledge and skills • Educators appreciate the inherent value of collaborative teaching and learning opportunities	• Willingness to collaborate across disciplines to explore CPT development
3. SH&SCPs receive "condensed" CPT with perceived fundamental elements included	SH&SCPs: • Develop fundamental insights into the nature of communication disorders and generic strategies for supporting communication with people with stroke acquired communication difficulties • Feel confidence in their knowledge of communication disorders • Perceive that communicating with people with stroke acquired communication impairments will be less difficult	SH&SCPs: • Demonstrate increased willingness to communicate with people with stroke acquired communication difficulties • Anticipate success communicating with people with stroke acquired communication difficulties • Experience variable communication success with people with stroke acquired communication difficulties • Experience variable emotions, both positive (e.g., satisfaction, sense of achievement) and off putting (e.g., frustration, guilt) interacting with people with stroke acquired communication impairments • Develop some insights into effective strategy use with people with stroke acquired communication impairments • Experience increased confidence around communicating with people with stroke acquired communication impairments

Context IF	Mechanism THEN	Outcome AND
4. Teaching on communication impairment prioritises the social model of disability and: • 4a. Emphasises the impact of communication on activity and participation	SH&SCPs develop: • Informed insights into the functions and importance of conversation in daily life • An appreciation of the significant impact impaired conversation skills can have on a person's life • A desire to facilitate better conversations for people with stroke acquired communication impairments / no desire to facilitate better conversations for people with stroke acquired communication impairments due to recognition of effort required	SH&SCPs: • Will conceptualise/ reconceptualise conversation and the impact of communication impairment • Will be willing/unwilling to invest effort in developing supportive communication skills given their appreciation of the effort required • Demonstrate increased willingness to engage /avoid engaging in communicative interactions with people with stroke acquired communication impairments
• 4b. Promotes activity and participation of people with stroke acquired communication impairments	SHCPs will: • Develop critical awareness around identification of target behaviours/strategies and accommodating to the needs of people with stroke acquired communication impairments • Appreciate that communication is a shared responsibility, collaborative and co-constructed • Appreciate the need to use adaptive strategies and avoid maladaptive strategies when communicating with people with stroke acquired communication impairments • Appreciate the effort required on behalf of the communication partner to assist people with stroke acquired communication impairment reveal their competency • Recognise of the inherent competency of the people with stroke acquired communication difficulties • Realise that the communication partner has an essential role in helping reveal this competency	SHCPs: • Will be able to identify the most appropriate strategies and techniques to use with people with stroke acquired communication difficulties to optimise communication • Will be **willing** to continue to learn how to employ strategies and techniques to improve their communication with people with stroke acquired communication impairments in their daily practice and embrace communicating directly with people with stroke acquired communication impairments • Will be **unwilling** to continue to learn how to employ strategies and techniques to improve their communication with people with stroke acquired communication impairments in their daily practice (due to perceived effort and challenges) and select to communicate with significant others/staff. • View people with stroke acquired communication impairments as inherently competent
5. There is embedded support for equality, diversity and inclusion	SH&SCPs will: • Develop awareness around disability & equality; representations of disability in society; • Develop understanding of the insider experience • Desire to monitor attitudes, language and behaviours • Develop informed insights into and awareness of how disability is represented and viewed in society • Appreciate the need to adapt their attitudes/practices	SH&SCPs will: • Conceptualise/reconceptualise how disability is viewed in society • Endeavour to adapt/modify their attitudes and practices including their attitudes to and practices with people with stroke acquired communication difficulties • Demonstrate willingness to learn to become a communication partner

|	Context IF	Mechanism THEN	Outcome AND
6a.	Opportunity for structured, adequately challengingly practical application	SH&CPs: • Develop competence through active experimentation and practice • Develop critical insights into effective use of techniques and strategies • Feel confident in their developing skill set • Believe that it is the communication partner's responsibility to make conversation work • Develop increasingly positive attitude towards using supportive communication techniques and strategies	SH&SCPS will: • Demonstrate skilled, informed & varied use of supportive communication techniques • Have positive experiences communicating with people with stroke acquired communication difficulties • Understand how to change own behaviour to optimise communication with people with stroke acquired communication difficulties • Understand that the communication partner is vital to revealing competence of people with stroke acquired communication difficulties
6b.	Opportunity for guided reflection on one's own behaviour and the behaviours of others	• Reflective observation of adaptive and maladaptive behaviours and communicative behaviours and attitudes • Abstract conceptualisation giving rise to new ideas/ modification of existing concepts	• New concepts/modification existing concepts (e.g., around inherent competency of people with stroke acquired communication difficulties; communication as a shared responsibility; societal view of disability; use of supportive communication)
7.	Focus on rights and autonomy of people with stroke acquired communication impairments in health care practice	SH&CPs will: • Recognise the right to and value of client centre care (CCC) • Recognise the need to be competent in use of supportive communication techniques to ensure CCC for people with stroke acquired communication difficulties	SH&SCPS will: • Be willing to engage in CPT • Commit to using supportive communication for people with stroke acquired communication difficulties in facilitating CCC
8.	People with stroke acquired communication impairments are engaged as co-trainers assisting in the delivery of the CPT	• There is reciprocity/mutual exchange of privileges between SH&SCPs trainers with stroke acquired communication difficulties and SH&SCPs • SH&SCPs develop insights into the lived experience • There is acknowledgement of expertise of people with stroke acquired communication difficulties • People with stroke acquired communication impairments believe in the value of training	• SH&SCP have opportunity for practice and deep learning • SH&SCPs will become empathetic, skilled communication partners • People with stroke acquired communication impairments feel valued as they are contributing to service development and enhancement • People with stroke acquired communication impairments experience positive feelings such as pride and wellbeing in helping others and improving services
9.	People with stroke acquired communication difficulties participate in CPT as communication partners &/ or as co-trainers	• People with stroke acquired communication difficulties experience positive social participation	People with stroke acquired communication difficulties: • Have the opportunity to meet people • Practice speaking with unfamiliar person/s • Developed increased confidence in their communication abilities • Experience decreased feelings of marginalisation
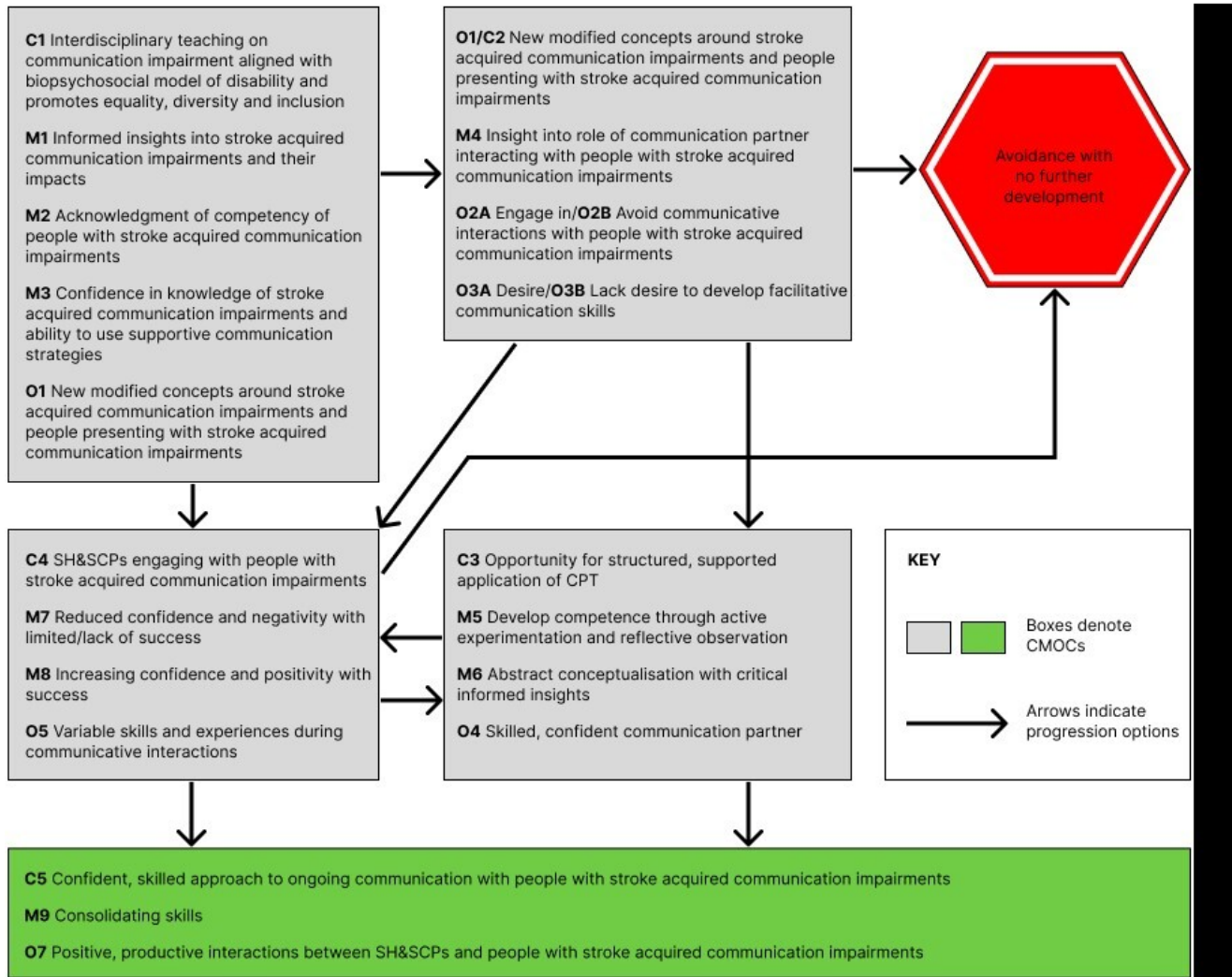
Figure 3. Graphic representation of integrated IPT for Stroke specific CPT for SH&SCPs.

- Relevance

- Rigour, including plausibility, coherence, trustworthiness

- Richness

Adhering to the above standards and recommendations bespoke appraisal tools are being devised for this review. Key concepts are synopsised in Figure 4.

Step 4 Extract the data

The RAMESES Quality Standards for Realist Synthesis (The RAMESES Project (www.ramesesproject.org) ©2014, p.7) advises that the data extraction process be continually refined over the course of the review in line with evolution of programme theory and focusing of review questions. Consequently, as Pawson *et al.* (2004, p.23) had previously highlighted, data extraction in realist review is a process "without an exact equivalent". A preliminary data extraction template has been devised and includes study, participant and

intervention characteristics, outcome measures and outcomes, contexts, mechanisms of action and underpinning theories. For analogous purposes the domains of the substantive theoretical framework the TDF (Atkins *et al.,* 2017) and COM-B elements of the BCW (Michie *et al.,* 2011) are included in the extraction template. This template will be amended as indicated following the pilot searching, and iteratively thereafter in line with evolving insights and understanding. Once coded with respect to richness, relevance and rigour sufficiently rigorous data will be prioritised and assigned conceptual labels relating to CMOCs or components thereof. Less rigorous data will also be interrogated and undergo a triangulation process prior to contributing to programme theory refinement.

Step 5 Analyse and synthesise data

Data synthesis centres on programme theory refinement (Hunter *et al.,* 2022; Pawson *et al.,* 2005; Rycroft-Malone *et al.,* 2012). Once thoroughly familiar with the extracted data sets, interpretations and judgements will be made around:

Table 4. Preliminary concept-based search.

Concept 1		Concept 2		Concept 3
conversation partner training **OR** communication partner training **OR** communication strategies **OR** inclusive communication **OR** communication access **OR** supportive communication **OR** communication skills	**AND**	Aphasia **OR** Stroke **OR** Dysarthria **OR** cognitive communication disorder **OR** apraxia of speech **OR** augmentative communication **OR** assistive communication **OR** communication disorder **OR** Right hemisphere language disorder	**AND**	Nurse **OR** Doctor **OR** Medic **OR** Speech and language therapist **OR** Speech pathologist **OR** Physiotherapist **OR** Occupational therapist **OR** Psychologist **OR** Podiatrist **OR** Student **OR** health care professional **OR** Assistant **OR** patient provider **OR** Rehabilitation **OR** Allied health **OR** health care

Relevance
- Does the document describe/recommend CPT for use with any or any combination of stroke acquired communication impairments?
- Does the document describe CPT for use with health and social care professionals or student health care professionals?
- Does this document describe mechanisms relevant to programme theory development?

Richness
- Does the document provide sufficient detail to assist with theory interpretation and development in the form of CMOCs or partial CMOCs and the refinement and development of IPTs into Middle range programme theory?
- **Detail on:**
  Models, theories, theoretical frameworks relevant to CPT; Relationships and causal links across CMOs relevant to CPT; CPT resources and their hypothesised/observed mechanisms of action and outcomes; Contextual variables; Barriers and enablers to CPT implementation

Rigour
- **Level of data source/evidence - Is the source trustworthy :**
  Is the source credible?
  Who is the author?
  What is the purpose of the content?
  Where is the content from?
  Why does the source exist?
  How does this source compare to others?

  Are the methods used appropriate and trustworthy?

  Level of programme theory: Is the theory coherent?
  Is the theory consilient?
  Is the theory simple?
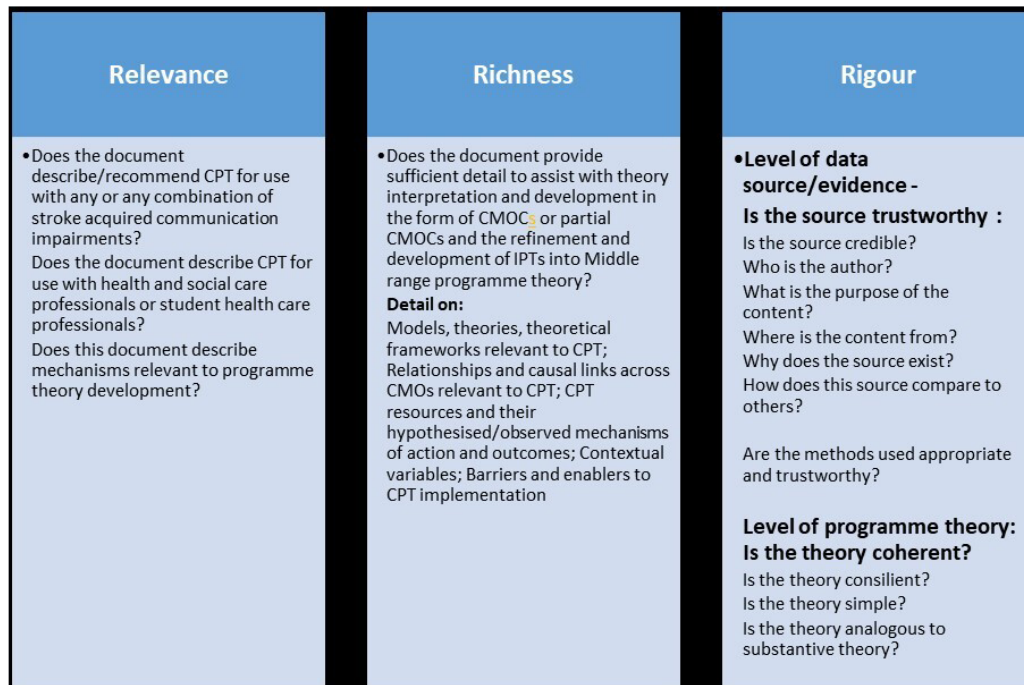 Is the theory analogous to substantive theory?

Figure 4. Synopsis of key concepts for appraisal of relevance, richness and rigour (adapted from Wong, 2018; Dada *et al.*, 2022 and Dada *et al.*, 2023).

- Partial or complete CMOC of included data

- How these data impact the refinement of the initial CMOCs developed in Step 1 and their development into middle range theory

- Whether further searching is required in response to developing insights and understanding

The following analytical process adapted from Pawson (2013) by Papoutsi *et al.* (2018, p.16) will inform analysis and judgement throughout the synthesis process:

- Juxtaposition of data sources through comparing and contrasting data across documents

- Reconciliation of contradictory or differing data through further analysis, investigation and explanation.

- Consolidation of evidence sources where adjudications around demi-regularities can be made.

Matrices will be devised to facilitate this analysis. Analysis, judgement and synthesis will be a collaborative and iterative group process, see Figure 5. Throughout this process uncertainties will be resolved through discussion, debate and group consensus.

Study status
As outlined in Figure 1, this realist review comprises the first phase of this project. Step one of the review has been completed and phase two is underway.

Plan for dissemination
This protocol will be submitted for publication to a peer-reviewed publishing platform. The findings of the completed review will be presented in a second article, adhering to the RAMESES publication standards for realist synthesis, and submitted for publication to a peer-reviewed journal. Also, following consultation with the advisory group other relevant platforms including conferences, media platforms, and special interest groups will be explored for dissemination.

Ethical approval
Ethical approval is not required for this review. No data will be collected from the advisory group.

Discussion and conclusion
This protocol provides an argument for using a realist approach, in conjunction with PPI, to enhance stroke specific CPT development and implementation for SH&SCPs in higher education institutions. It specifically details the first phase of this project – the realist review. People with stroke acquired communication impairments, often excluded from research that requires equal participation, are consulting as members of the review's advisory group to improve the quality, relevance and impact of the review. They will continue to consult as PPI advisors across all phases of the project.

While research into CPT addressing the broad range of stroke acquired communication impairments is evolving, there are limited implementation guidelines and recommendations to direct practice. Aligned with this is the need to
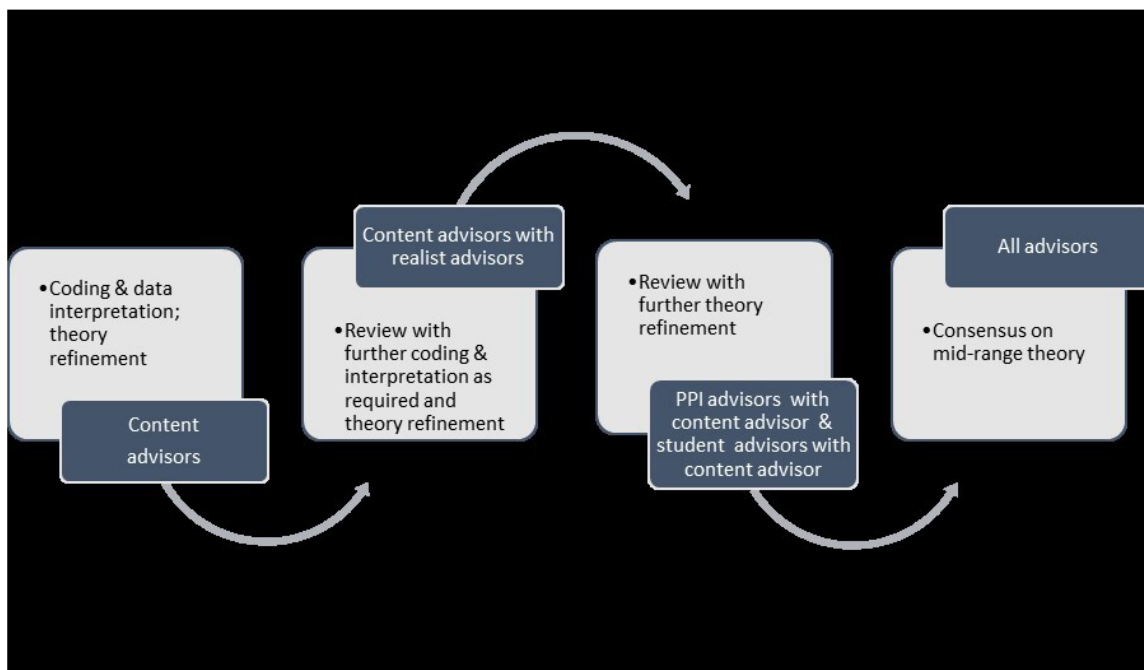

Figure 5. Group analysis, judgement and synthesis process.

address "real world" realities and challenges in implementing complex interventions in complex clinical and educational settings. Realist review adds to existing knowledge and confronts these "real world" challenges by evaluating CPT from a theroetical and explanatory view point. In the development of a middle range programme theory it aims to coherently explain how the intervention is expected to work. While traditional systematic reviews look at what works and effect size, realist review explores generative causation in theory building and asks a much broader range of questions including who does it work for, under what conditions and how? Unlike existing systematic reviews realist review permits the synthesis of relevant and valuable data from diverse sources and methodologies. Including such varied, valuable data in the production of a middle range theory may provide educators with new and essential theoretical

and practical guidance in the development and implementation of CPT programmes, tailored to their desired outcomes for a range of SH&SCPs. The middle range theory developed during this review process will undergo further analysis and development in a subsequesnt realist evaluation.

Data availability
No data are associated with this article.

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Open Peer Review

Current Peer Review Status: ❓ ❓ ✔ ❓

Version 1

Reviewer Report 04 March 2024

❓
Alexandra Tessier (ID)

[1] Orthophonie, Université du Québec a Trois-Rivières (Ringgold ID: 14847), Trois-Rivières, Québec, Canada
[2] Centre interdisciplinaire de recherche en réadaptation et intégration sociale, Québec, Québec, Canada

First of all, thank you for the opportunity to review this protocol, which describes an ambitious and impressive project. Specifically, this protocol describes how the authors, using a realist review methodology, will develop a middle-range theory to explain the functional mechanisms of CPT offered to student health and care professionals in an academic context. This project addresses the needs of settings for the real implementation of CPT and aims to fill gaps in the scientific literature on CPT offered to student health and care professionals. It seems important for realizing an inclusive society, providing quality care, and advancing scientific knowledge on CPT to explain how to implement this intervention in real life. The presence of an advisory board, including individuals with experiential knowledge, is a notable strength of the study that contributes to ensuring its rigor and relevance for all. I look forward to reading the results of this realist review.

Introduction
The rationale justifies clearly and convincingly the relevance of conducting the proposed research project. The literature review is exhaustive and is supported by relevant sources in the field. I particularly appreciated that the authors explained the realist review methodology in sufficient detail in the introduction, as it is a methodology that I was not familiar with. This study addresses clinical and scientific needs to identify realistic ways to implement CPT in different settings (here for student health and social care professionals). I noticed a few typos that could be corrected:
- Table 1 → Aphasia → spelling mistake "it may be difficult to verbalize" and not "difficulty".
- Introduction, third paragraph, please introduce abbreviation Sh&SCP after the first time you fully write it (line 3 of the 3rd paragraph)

Methods
The study design is appropriate for the research question and the methodology is described in detail. I particularly appreciated the numerous methodological references that the authors draw upon and the figures summarizing the processes and results that the team has obtained so far.

However, I must mention again that I am not familiar with the realist review methodology. Therefore, I am not able to judge if important points in explaining the methodology are missing. Nevertheless, in my opinion, the methodology is sufficiently detailed and referenced to allow replication based on the protocol and the studies cited.

 I have some questions and suggestions for clarification for the methodology section of the protocol:

- Research question 4 (For whom...), in the examples, when you say "people with communication difficulties", what do you mean? Like, with what types of communication difficulties do CPT have effects? Or what type(s) of communication difficulties are addressed in CPT? It's not quite clear to me what this example evokes here.
- In the paragraph where supported conversation is mentioned to support the participation of people with communication disability on the advisory board: what are the "top tips" that you adhere to (McMenamin et al., 2021)? Since I am not familiar with the article in question, I would have appreciated a summary of what it specifically entails.
- I wonder if the research questions presented in the second part of the method should rather be presented under "step 1". That way, we would know upfront who developed the questions and their objectives before reading them. I don't think it would impair my understanding of the method if it were moved down, and it would thus follow the chronological order of the process in the presentation, which I believe would aid in the general understanding of the methodology.
- Table 4. In concept 2, could it be relevant to add to the search strategy "communication disability*" and "communication impairment*"?

Is the rationale for, and objectives of, the study clearly described?

Yes

Is the study design appropriate for the research question?

Yes

Are sufficient details of the methods provided to allow replication by others?

Yes

Are the datasets clearly presented in a useable and accessible format?

Not applicable

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Communication partner training, communication disabilities, environmental interventions, transportation, workplace training, participatory research

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

Reviewer Report 20 February 2024

https://doi.org/10.21956/hrbopenres.15077.r37743

✔️   **Rachael Rietdijk**
The University of Sydney, Sydney, New South Wales, Australia

The authors have outlined a comprehensive plan for conducting a realist review on the important topic of communication partner training for student health and social care professionals. The paper integrates references to a large body of relevant literature to support the development of a compelling case for the review. I offer the following points of feedback which may assist to improve the clarity of the paper:

Title and abstract: Consider including the word "protocol" in the title and when describing the methods. For example, the title could state, "A protocol for a realist review". This change would help to set the reader's expectations for the content of the paper.

Introduction: The introduction provides a clear overview of communication impairments after stroke and communication partner training. The introduction to the approach of realist review is reasonably clear to me as a reader who is not familiar with this area. Could the authors support their explanation with an illustrative example of how this approach has been used in a similar field? A definition of the term "middle range theory" would also be useful to add to the text in this section. I would also suggest moving Table 2 to be referenced in this section of the introduction, as these definitions will be helpful to readers unfamiliar with this topic.

Methods: The research questions are clearly articulated, and methods are well described and rationalised. I noted the following queries regarding this section:
- Aims and objectives: Figure 1 clearly outlines the phases and steps of the project, but this could be described more clearly in the text. For example, the first phase and third phase of the project are defined in the text, but the second and fourth phases are not mentioned. The reference to Figure 1 could also be moved to this section.
- Questions: Could you provide some examples of "contexts" (in the same way that you have given some examples of what is meant by "whom" in the previous question.)
- Review advisory group: I was interested in a little more information on how the advisory group works (e.g., How often does the group meet? In-person or online? Are all members present at all meetings, or are there smaller sub-groups which meet to discuss specific issues? Are there any reimbursement arrangements in place?). I was also interested to know if all the student advisors all from an SLT program, or are they from other backgrounds?
Step 1: Table 3 is well presented and illustrates the IPT concepts well. I had more difficulty following Figure 3. Could you share more about the process that lead to grouping the C/M/O elements in this way? Do learners always start in the top left hand box, or can they start in any box?
Step 2: The search terms appear to focus on student health care professionals, rather than social care professionals. Were other search terms considered (e.g., social work, psychology, counselling, etc)?

Discussion: The authors conclude with a reflection on the benefits of a realist approach for addressing the research questions. The primary point mentioned here is the benefit for educators. I would be interested to read more on the authors' thoughts about the potential benefits of this project for students and for people with communication impairments.

Minor typographical errors:
In the introduction, "real word complexity" should be "real world complexity"
In the final sentence, "subsequent"

I wish the authors success with this important project and hope that this feedback is helpful as you continue your work in this area.

Is the rationale for, and objectives of, the study clearly described?
Yes

Is the study design appropriate for the research question?
Yes

Are sufficient details of the methods provided to allow replication by others?
Partly

Are the datasets clearly presented in a useable and accessible format?
Yes

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Communication partner training after acquired brain injury

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

Reviewer Report 13 February 2024

https://doi.org/10.21956/hrbopenres.15077.r37731

? **Ariné Kuyler**
University of Pretoria, Pretoria, Gauteng, South Africa

Thank you for the opportunity to review this manuscript. Although the manuscript has merit various questions arose.

Introduction
- Please very clearly define who you refer to when using the terms student health and social

care professionals, as individuals from different countries or backgrounds can interpret this differently.

- ○ You mention that student health and social care professionals engage with people with stroke-acquired communication disorders in tertiary education. However, it is unclear in what context these individuals are accessed. Do the individuals with stroke receive therapy or some form of social support or community engagement at the institution??? Or are you referring to student undergraduate education on CPT for persons with stroke?
- ○ Additionally, are the student health and social care professionals acting as communication partners? Are they familiar or unfamiliar to the person and also what care pathway is taken for persons with stroke-acquired communication disorders to end up with these professionals?
- ○ Also, you interchangeably refer to student health and social care professionals and healthcare providers, please use one term consistently throughout your manuscript.
- ○ You mention that this review may enhance and potentially accelerate development and implementation specific to CPT related to stroke in clinical education. How will the review accomplish this?
- ○ All healthcare providers worldwide are required to provide ethical and evidence-based practice. I can understand that a realist view can be of benefit but how does a realist view correlate with actual evidence-based practice? To provide ethical services a combination needs to be used of theory, clinicians' experience and the reported needs of individuals with stroke and their family members. I am unsure how you are incorporating these aspects.

Questions:
- ○ Are you looking at the actual implementation of CPT in higher education settings or what the students for example in speech-language pathology are being taught during their undergraduate degree???
- ○ Please specify the context as your questions are too broad and unclear.

- ○ Rephrase the question: What CPT interventions are used for SH & SCPs in higher education institutions? To read as follows: What CPT interventions are included in undergraduate curriculums for SH and SCPs at higher education institutions?
- ○ Rephrase for whom the interventions work or not. A suggestion would be to rather say, what are the beneficial outcomes reported by participants of CPT (including both the person and communication partner)?
- ○ Desired outcomes and achievable outcomes are very different things. You can change the question to read as follows: How are outcomes measured in CPT interventions taught to students in undergraduate curriculums at higher education institutions?
- ○ Rephrase What contexts are enabling/inhibitory? To read as What contexts act as facilitators or barriers for the successful implementation of CPT?
- ○ How these interventions work is a very broad question. Are you referring to the characteristics of the programme??
- ○ Additionally, are you also thinking of how knowledge and skills taught in CPT are maintained after the intervention is completed?

Is the rationale for, and objectives of, the study clearly described?

Partly

Is the study design appropriate for the research question?

Yes

Are sufficient details of the methods provided to allow replication by others?

Yes

Are the datasets clearly presented in a useable and accessible format?

Yes

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Communication-partner training; adults with acquired neurogenic communication disorders; palliative care; ICU care; family-centred care

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

Reviewer Report 21 November 2023

https://doi.org/10.21956/hrbopenres.15077.r36931

? **Marina Charalambous** 🆔

CO- REsearch Lab (COREL), Department of Rehabilitation Sciences, School of Health Sciences, Cyprus University of Technology, Limassol, Cyprus

Dear Authors,

Thank you for the opportunity to review your study protocol on "Communication partner training for student health and social care professionals engaging with people with stroke acquired communication difficulties: A realist review." Your study protocol explores the complex landscape of stroke-specific communication partner training using a realist review approach, which I find suitable for the aim of the project.

The authors effectively contextualize in the introduction the importance of communication rehabilitation for individuals who have had a stroke. They also emphasize the crucial role of communication partner training, particularly for student health and social care professionals. The review's methodology is considered appropriate. Also, the authors suggest using a Patient and Public Involvement (PPI) approach throughout the research process, which is suitable for the project's scope. However, the introduction lacks important information on PPI. To make the manuscript more informative for the reader on PPI, I suggest adding the following to the introduction:

1. The definition of PPI (National Institute of Health Research, 2014 or other relevant sources),

2. A brief description of the different types/levels of PPI (Arnstein's work on the ladder of

participation in 1969),

3. An explanation of why the formation of the 'advisory groups' was selected compared to active PPI partnership (Charalambous et al., 2022; Mc Menamin et al., 2022).

Additionally, it would be helpful to add a paragraph in the methods section specifically explaining the following:

1. How were the advisory groups created? It seems that the advisory groups do not participate equally in the project.

2. Did other advisors besides the content and realist advisors play any role in formulating the research questions and deciding on the design of the study?

3. What were the participatory methods employed in the project?

4. What is the PPI framework that the authors will use to design and monitor the contributions of the 'people with lived experience of stroke acquired communication impairments/PPI advisors'? Referring to the PAOLI framework developed by Charalambous and colleagues in 2023.

5. How will the authors approach the PPI patients in all advisory groups to avoid tokenism, especially those with communication difficulties?

6. What are the obligations of the 'People with lived experience of stroke acquired communication impairments/PPI advisors' in the research team?

7. What are the contributions expected from all PPI advisory groups in each phase of the project? Please briefly explain how involving PPI will improve the study's impact and the implementation of the results.

This information will ensure transparent documentation of PPI and especially patient advisors' contributions. It would be useful to include a table showing expected/completed PPI contributions from each advisor group in each project phase.

It would be helpful to provide additional demographic data on the two PPI advisors who have lived experience of stroke and related communication impairments. This data could include information such as the type and severity of the communication impairment, time since the stroke, previous and current employment, marital status, level of education, and psychosocial information. This information would provide the reader with a clearer understanding of the patient advisors' level of involvement within the research team.

While the review is yet to reveal its findings, the anticipation is high for insights that extend beyond mere program efficacy. By exploring the 'why' and 'how' behind communication partner training effectiveness, the study has the potential to provide actionable recommendations for refining and tailoring interventions to the unique needs of individuals with stroke-induced communication impairments. To ensure that the findings of the study are robust and applicable across diverse contexts, it's crucial to acknowledge and address several factors such as the diversity in stroke manifestations, varying communication needs, and the dynamic nature of healthcare settings.

It is suggested that the authors provide a more comprehensive explanation of their approach to supporting PPI patient advisors throughout phase 2 of the project, with particular attention to addressing their communication challenges. This information will be useful for other researchers who wish to learn how to better support team members with communication difficulties. Finally, including patients and the public in research communication and dissemination strategies helps bridge the gap between scientific findings and the broader community. Please describe how the two PPI advisors who have lived experience of stroke and related communication impairments will be involved in disseminating the project's outcomes.

I hope that the suggestions I have provided will be helpful. Good luck with your project.

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Is the rationale for, and objectives of, the study clearly described?

Yes

Is the study design appropriate for the research question?

Yes

Are sufficient details of the methods provided to allow replication by others?

Partly

Are the datasets clearly presented in a useable and accessible format?

Yes

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Patient and Public Involvement (PPI) in stroke and aphasia research

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have

significant reservations, as outlined above.