# **BMJ Open** Why do some people with stroke not receive the recommended 45 min of occupational therapy and physiotherapy after stroke? A qualitative study using focus groups

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#### ABSTRACT

**Objectives** To generate qualitative data on the views of Occupational Therapists and Physiotherapists about why people do not receive the Royal College of Physicians' recommended minimum of 45 min of daily therapy after stroke, in order to inform a Delphi study. **Design** Focus group study.

**Setting** Stroke services in the South of England.

**Participants** A total of nine participants, in two groups, including therapists covering inpatient and Early Supported Discharge (ESD) services with awareness of the 45 min guideline.

**Results** Thematic analysis of focus group data identified five factors that influence the amount of therapy a person receives: The Person (with stroke), Individual Therapist, Stroke Multidisciplinary Team, the Organisation and the Guideline. Study findings suggest that the reasons why a person does not receive the therapy recommendation in inpatient and ESD services relate to either the suitability of the guideline for the person with stroke, or the ability of the service to deliver the guideline.

**Conclusion** This study provides evidence for possible reasons why some people do not receive a minimum of 45 min of therapy, 5 days per week, related to (1) the suitability of the guideline for people with stroke and (2) services' ability to deliver this amount of intervention. These two factors are related; therapists decide who should receive therapy and how much in the context of (a) resource availability and (b) people's need and the benefit they will experience. The study findings, combined with the findings from other studies, will be used to initiate a Delphi study, which will establish consensus among therapists regarding the reasons why some people do not receive the guideline amount of therapy.

## **INTRODUCTION**

In England, the National Clinical Guideline for Stroke<sup>1</sup> recommends that:

People with stroke should accumulate at least 45 minutes of each appropriate therapy every day, at a frequency that enables them to meet their rehabilitation goals,

# STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ To the best of our knowledge, this is the first study to use focus groups to explore why a person may not receive the Royal College of Physicians recommended 45 min of therapy after stroke.
- ⇒ This study recruited two natural groups of Occupational Therapists and Physiotherapists, working in inpatient and early supported discharge services in the South of England.
- ⇒ Generalisation of findings is limited, due to the small number and limited geography of participants (however, findings have been further examined in a subsequent study).

and for as long as they are willing and capable of participating and showing measurable benefit from treatment. (1 p.25)

This guideline was introduced in 2008 and is reportedly appropriate for 80% of people receiving Occupational Therapy (OT) and 85% of people receiving physiotherapy as part of in-patient stroke rehabilitation.<sup>2</sup> Since 2013, the Sentinel Stroke Audit Programme (SSNAP) has audited its achievement based on the provision of therapy 5 days a week. Audit findings published in 2022 suggest this guideline is achieved for 34% and 32%of those considered appropriate for OT and physiotherapy (PT), respectively.<sup>3</sup> Details regarding how this guideline is audited (including what constitutes therapy and how it is counted) are found in the SSNAP Core Data set Help Notes.<sup>4</sup>

Stroke is the second most common cause of global disability, with more than 80 million stroke survivors worldwide.<sup>5</sup> Such disability results in reduced quality of life for people with stroke and their carers<sup>67</sup> and has a significant effect on national economies.<sup>8</sup> OT and

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Correspondence to Beth Alice Clark; b.a.clark@soton.ac.uk PT contribute to poststroke recovery including, but not limited to, increased independence in activities of daily living, community reintegration, improved postural control and mobility.<sup>9–12</sup> While there is evidence of the benefits of OT and PT following stroke, there is not clear evidence regarding who should receive it, when and how much. The guideline for 45 min is based on evidence from systematic reviews, which suggests that more therapy leads to better outcomes in the first 6 months poststroke,<sup>13–16</sup> however, more recent evidence suggest that this may be an over-simplification of the effect of time spent in therapy.<sup>17</sup>

Three recent studies report factors that influence the amount of therapy a person receives in the context of the 45 min guideline.<sup>18–20</sup> Despite different study designs, each identified resource provision (number of therapists or amount of therapy time) as a reason why people with stroke may not receive the guideline recommendation. This suggests that therapists must decide not only who is appropriate for therapy, but who will receive it in the context of a limited resource. Therapists use observation and assessment to decide who will receive therapy and the amount they will receive.<sup>18</sup> <sup>21</sup> Thus, therapists are gate-keepers of therapy. No study to date has used therapist focus groups to explore why a person may not receive the recommended 45 min of therapy.

To date, studies that have examined the delivery of the 45 min guideline have done so in the context of in-patient stroke rehabilitation.<sup>18–20</sup> However, in the UK, approximately 47% of people are discharged to an Early Supported Discharge (ESD) Service.<sup>3</sup> ESD is a model of stroke care, in which rehabilitation traditionally delivered in hospital is provided to those suitable in their own environment.<sup>22</sup> The RCP guidelines for stroke state that ESD input should imitate inpatient stroke unit care.<sup>1</sup> Thus, the therapy guideline remains applicable and measured via SSNAP. However, there is currently no published research that examines the implementation of the 45 min guideline in ESD teams.

This study explores therapists' views regarding why some people with stroke do not receive the RCP's recommended minimum of 45 min of therapy, 5 days a week (the standard currently audited), in inpatient and ESD settings. This study sought to explore all reasons why a person might not receive the guideline amount of therapy. This includes the reasons why some people are considered inappropriate for this amount of therapy and the reasons why some people might not receive this amount of therapy, despite it being considered appropriate. A qualitative approach was used, as this was considered fitting for this exploratory study. Study findings informed the design of a Delphi,<sup>23</sup> which aimed to gain consensus from therapists.

#### **METHODOLOGY**

Focus groups are appropriate for studying the decisionmaking process. They are based on social constructionism theory, where individuals develop understanding through social interactions. This may be important considering that therapists' decision-making may be based on tacit knowledge, not easily articulated. Finally, they are suitable for addressing sensitive topics, such as guideline non-achievement.<sup>24</sup>

OTs and physiotherapists (PTs) were recruited from established therapy teams in two geographical areas of southern England. The use of pre-existing groups reduces the variability in terms of possible practical limitations to providing the recommended amount of therapy within focus groups. It is also beneficial in terms of familiarity within the group, and potentially increases truthfulness.<sup>24</sup> Recruitment purposely sampled therapists with recent experience in inpatient rehabilitation, ESD or both, with a target of three to eight participants per group.<sup>24</sup> To be eligible, participants needed to be:

- 1. A registered OTs or PTs.
- 2. Currently treating people with stroke (either ESD or inpatient).
- 3. Aware of the 45 min therapy guideline.

Participants were invited via an email from the researcher. A senior therapy contact within each organisation was asked to forward the email to all people within their department that met the eligibility criteria; hence it is not known how many were invited, nor how many declined to participate. However, to provide context for the number of therapists likely invited, one area had 36 stroke beds and the other had 37 stroke beds. All participants who met the eligibility criteria and gave written consent to participate attended a focus group. Focus groups were held in acute hospitals and lasted approximately 90 min. The focus groups took place in May and September of 2016, 8 years since introduction of this guideline, and 3years since auditing its achievement commenced. Participants took part in the focus groups as part of their working day, and were not further reimbursed for their time.

A topic guide comprising open-ended questions with prompts was piloted and  $used^{24}$  (box 1). No other stimulus

#### Box 1 Topic guide

- ⇒ What does this guideline mean to you and your service?
  ⇒ Has it changed anything in terms of service provision in order to try and achieve the 45 min of therapy?
  - $\Rightarrow$  What would change if the 45 min recommendation no longer existed?
  - ⇒ Do you think that the people accessing your service get the right amount of therapy?
  - $\Rightarrow$  How do you decide when to stop a specific therapy (ie, OT or Physiotherapy), or when to stop therapy altogether?
- $\Rightarrow$  What are the Pros and Cons of having this guideline?
- $\Rightarrow$  What influences your decisions regarding therapy provision?
  - $\Rightarrow$  Anything to do with the patient/carers/relatives?
  - ⇒Anything to do with resources?
  - $\Rightarrow$  Anything else?
  - $\Rightarrow$  OT, Occupational Therapy.

materials were used to avoid influencing the discussion. Beth Clark facilitated both groups, with briefed cofacilitators (one per group). At the time of the focus groups, Beth was working as an Interprofessional stroke Unit Lead, in the same geographical area as the participating teams and consequently had previously worked with some of the focus group participants. She was also a Doctoral student, who had undertaken training in qualitative research methods and analysis. Participants were encouraged to consider Beth as a researcher, who was exploring a research question. They were assured that there were no right or wrong answers to the questions being asked. As part of the consent process, participants were reminded that participation was voluntary, that they could withdraw at any time, and that confidentiality would be maintained.

The focus groups were audio-recorded, transcribed and the data analysed using reflexive thematic analysis,<sup>25–27</sup> from an interpretivist approach.<sup>28</sup> Field notes taken by the cofacilitator during the focus groups also contributed to the data analysis. An inductive approach to coding was used,<sup>25 29 30</sup> supported by operational and analytical memos.<sup>31 32</sup> One author (BAC) undertook the analysis, which was reviewed by another author (JT) to test assertions. Participants were not asked to review transcripts, nor comment on findings, but were all invited to participate in the Delphi study,<sup>23</sup> to which the findings of the focus group contributed. Quotes from participants are presented in the findings, indicating that the focus group the quote was from (FG1 or FG2), and the page number and line in the transcript.

The concept of data saturation was considered inconsequential in relation to this study. Not only are there issues with data saturation in the context of reflexive thematic analysis,<sup>33</sup> but the aim of this study was not to establish all possible reasons why a person may not receive 45 min of therapy, but to establish common reasons, to be examined further (and potentially added to) in a Delphi study.<sup>23</sup>

Ethical approval was sought from the University of Southampton (ERGO II 17994) and from the Research and Development departments of the NHS trusts participating in the research (IRAS ID 189272)

#### Patient and public involvement

This study is part of a wider programme of work, within which the opinions of people with stroke on the 45 min guideline have been sought. As this study is specifically about therapists' implementation of the guideline, the opinions of people with stroke did not directly influence this study.

# Findings

Nine therapists participated in two focus groups (table 1).

Five themes were generated from the data, each divided into subthemes (figure 1). Each theme related to a factor that influenced amount of therapy provided. The themes and subthemes are herein described.

#### Theme one: the person

A person with stroke's individual characteristics influences whether they are considered appropriate for therapy, and the amount of therapy they receive. This includes the effects of their stroke, their functional ability and their engagement with therapy.

#### Effects of the stroke

The effect of stroke on a person may influence the amount of therapy they receive, with medical effects heavily cited as reasons for non-delivery of the guideline:

One of the main ones is the medically unwell patients... if their blood pressure is unstable, or their heart rate, or all that kind of stuff... (FG1, p4, lines 10–14)

As well as blood pressure and heart rate, medical issues mentioned were fatigue, nutritional status, palliative care, comorbidities and being generally 'unwell'. This finding is supported by literature, which reports that medical complications, level of consciousness and fatigue can impact therapy delivery poststroke.<sup>18 34–36</sup> Impaired attention, a common sequela of stroke,<sup>37</sup> was also cited as a reason why a person might not receive the guideline:

They might not have the attention to process everything that's going on or what you're asking them to do. (FG2, p4, lines 36–37)

Additionally, groups identified that both low mood and lack of motivation may lead to less therapy; these issues were discussed separately, but could be linked as this quote suggests:

We've had some people with low mood who just don't want to engage, and, as long as we feel, like, there's not a mental capacity issue, then, you kind of have to respect that. (FG1, p28, lines 21-24)

Table 1         Demographics of clinicians					
Focus group (number of participants)	r Profession	Time working in the service	Clinical area of recent experience	Therapist seniority	Gender (% female)
Focus group one (three participants)	Physiotherapist=2 Occupational Therapist=1	4-12 years	Inpatient=1 Both inpatient and ESD=2	Band 6=2 Band 7=1	100
Focus group two (six participants)	Physiotherapist=4 Occupational Therapist=2	11 months-7 years	Inpatient=3 ESD=3	Band 6=4 Band 7=2	100

\*Band 6: senior therapist, band 7: advanced therapist/team lead. ESD, Early Supported Discharge.



Figure 1 Graphical representation of focus groups' themes and subthemes. MDT, multidisciplinary team.

Other research literature supports the perception that low mood and lack of motivation may reduce the amount of therapy a person received after stroke,<sup>21 35 38</sup> and that low mood is common after stroke.<sup>39 40</sup>

# Functional ability

The person's current and prestroke level of function may influence the amount of therapy they receive. In discussion of function, therapists identified issues related to both the person's current level of dependence and their ability to self-manage. While current level of dependence was easy to define, relating to the level of care need a person had, self-management was a harder concept to clarify, but would appear to be related to their ability to take an active role in their therapy:

... They could participate in five sessions of 45 minutes but they wouldn't get the benefit from it, they don't necessarily need it, they could self-manage in between those times so they have a lighter input than 45 minutes, five times a week. (FG2, p6 lines 10–13)

In addition, the person's prestroke level of function appeared to influence therapists' expectations, for example:

Anyone who was maybe fully dependent before, we would maybe think about whether it's worth our resource to get so involved. If someone came from a nursing home where they were well supported—they weren't particularly independent, then we would change our expectations for that person. (FG1, p4, lines 29–32)

This suggests that dependence prior to stroke may be an indicator that the guideline is not appropriate for an individual. However, therapists also discussed that the guideline was not appropriate for an individual if they have returned to their prestroke level of functioning:

Some of our patients we deem not to require the 45 minutes, who are perhaps up and mobile already but they have had a stroke and actually giving them some cardiovascular fitness might benefit them, but our threshold is above that... we tend to think they're at their baseline and ability to cope to go home so we draw a line there and give them less than the 45 minutes. (FG2, p6 line 41-p7 line 2)

In this case, it was considered that the person may benefit from therapy for their general fitness, but as they are functioning at their prestroke level, they are excluded from receiving the guideline. In both cases, knowledge of someone's prestroke functioning influenced therapy delivery. Other research reports finding that a person's prestroke functional level<sup>20 36</sup> and current ability<sup>21</sup> influence therapy delivery.

## Engagement with therapy

A person's engagement with therapy influences the amount they receive. Engagement is a complex concept, which includes the person's response to, participation with and tolerance of therapy, as well as their consent to therapy.

Therapists within this study identified that those making progress and engaging with therapy were more likely to receive the 45 min guideline, with one of the groups highlighting that participation must be consistent:

There's probably another group of patients that we'd maybe withdraw from, as well, that's the ones that aren't consistently... I think, for us, it's a lot about consistency, if they do it one day but not the other and so on, it doesn't actually go anywhere. (FG2, p17 line 45–p18 line 3)

There was no further explanation regarding why consistency was important, or why someone might not consistently participate.

A person's ability to tolerate 45 min of therapy also affects engagement. Other studies identify that reduced tolerance of therapy may result in less therapy delivered,<sup>18 41</sup> a finding also identified in the focus groups:

I guess, the drawback is that... maybe some of the lower-level patients just not being able to tolerate the full 45 minutes and then the difficulties and logistics of getting back to do smaller chunks more regularly with them in terms of our timetabling. (FG1, p20 line 45–p21 line 2)

Before someone can respond to, participate in and tolerate therapy, they must give their consent. Participants report that those who do not consent to therapy do not receive therapy.

If they've got capacity and they can make their own decisions and they don't want therapy... then that's their decision... they might not have therapy if that's not what they want. (FG2, p18, lines 8–12)

People may not consent to therapy, as they have other priorities. In the inpatient setting, receiving visitors was considered a competing priority, meaning people may not want therapy then. In the ESD setting, people may prioritise the desire to 'get on with life' over therapy:

...Especially if it's someone who doesn't get a lot of visitors and they've got one precious person, they've sat there all day on their own and the one time their visitors come, you want them... So it's getting, balancing what's the priority for the patient today... (FG1, p25, lines 38–43)

You get quite a variety as well, don't you, in terms of those who want the therapy and that's prioritised, and those who want to get on with life and that's prioritised... (FG2 p5, lines 27–30)

There were other non-specific priorities mentioned such as a person having an appointment or desire to use their time differently. No examples of the person's priorities impacting therapy delivery have been found in previous research.

## Theme two: The individual therapist

Individual therapists' decision-making influences the amount of therapy delivered. Focus group findings suggest that therapists feel a significant personal responsibility for resource allocation. This manifests in therapists wanting to be person-centred but also managing their time as a finite resource.

#### Being person-centred

Being person-centred considers therapists' belief that people should receive the therapy that is best for them, regardless of guideline recommendations. It's not like we have a stop-clock it's purely like, well, I've done what I need to do, oh, it's only been 20 minutes, that's what they've needed, or that's only what they've managed to tolerate, or we've come out the gym and you're like, oh my gosh, we've been in there for 75 minutes, how did that happen, we got a bit carried away... (FG2, p11, lines 41–45)

This relates to both the amount of therapy people receive and, also, how they receive it. The groups discussed that a joint OT and PT session could be reported as two separate sessions in SSNAP. This group of therapists felt that such joint sessions should only be undertaken if it was in the person's interest and not to increase guideline achievement:

We do that with patients... that will benefit from joint sessions as opposed to those who would tolerate 45 minutes of both separately, we don't do it as an alternative we do it because that's the best thing for the patient. (FG2, p7 line 45–p8 line 1)

Research suggests that therapists are person-centred when making decisions regarding the amount of therapy to provide, with Taylor *et al*<sup>34</sup> identifying that a person's individual characteristics effect amount of therapy delivered and McGlinchey and Davenport<sup>21</sup> reporting the importance of including people in decisions about their therapy.

In addition to being person-centred, therapists identified the need to manage the expectations of people with stroke and their relatives/carers. Expectations of therapy may be based on people's awareness of the guideline and/or the therapy the person has already received:

... They're expecting that they have had this daily therapy so far and they are continuing to expect this daily therapy and then you're taking that away and how they deal with that can be really tricky sometimes as well. (FG1, p5, lines 17–19)

The need for therapists to justify discontinuation of therapy suggests that they feel responsible for decisions made regarding the amount of therapy provided.

## Managing resources

Therapists believe they are 'holding the purse strings'; that they are responsible for appropriate management of therapy time and this can impact decisions about therapy delivery:

you wouldn't want to give them more therapy for the sake of giving them more therapy and actually prioritise them above someone else who will actually gain more from that input and intensity. (FG2, p6 lines 26–28)

This quote speaks of the prioritisation of people for therapy, which links with the findings of McGlinchey and Davenport, that PTs assign people as 'high' or 'low' priority for intervention, depending on factors that are tacitly understood.<sup>21</sup>

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Participants discussed how other stroke-related targets, such as new assessment targets, create conflicting priorities for therapists. In one of the groups, a participant reported that rehabilitation was the third priority, after new assessments and discharges:

We'd probably, well, we'd prioritise the new patient assessments first, over anything else or the discharges and then the rehab sessions after that. (FG2, p28, lines 29–30)

The impact that managing new assessments and discharges has on rehabilitation is identified in other research.<sup>18 19 21 34</sup>

#### Theme three: the stroke multidisciplinary Team (MDT)

Reasons why someone might not receive 45 min of therapy related to the multidisciplinary team (MDT). Findings from the focus groups suggest that competing healthcare priorities and therapist team decision-making effects the amount of rehabilitation a person receives.

#### Competing healthcare priorities

Competing healthcare priorities are other priorities within the MDT, which interfere with a person's therapy and were only discussed in relation to inpatients. In both groups, it was cited that the requirement to go for investigations could negatively impact a person's therapy input:

And then there's always going to be other things that go on ... you know, somebody might get called for chest x-ray (FG2, p4, lines 17–18)

Healthcare interventions provided by other members of the MDT were also identified as a reason why someone may not receive the guideline:

Sessions may not start on time as well, you go to the patient, you've given them prior warning, when you get there, they need their medications, which haven't been given yet, their NGs still attached... (FG2, p14, lines 43–45)

This results in people being unavailable or unready for rehabilitation input. Research literature supports these findings. Foley *et al*<sup>41</sup> suggest that people being off the ward affects therapy delivery. Other studies report that people's lack of readiness (including not yet dressed, not finished eating) impacts therapy delivery. <sup>18</sup> <sup>21</sup> <sup>34</sup>

#### Team decision-making

Other therapists (not directly treating the person) may influence the amount of therapy a person receives. Both focus groups reported 'therapist meetings', in which the caseload is discussed:

...In our regular meetings, that's where those decisions are made at the MDT meetings, to decide actually they need this many sessions of Occupational Therapy... (FG2, p18 line 46–p19 line2)

The purpose of these discussions is to aid appropriate allocation of resources; to ensure all people who required a minimum of 45 min of therapy received it, before addressing other priorities. However, within this discussion, there may be an element of team decisionmaking about the amount of therapy delivered and case discussion may influence individual therapists' decisionmaking. Similarly, Taylor *et al*<sup> $\beta$ 4</sup> identify that teamwork facilitates joined-up working across the MDT and therapists used daily MDT meetings to review the amount of therapy people receive.

#### Theme four: The organisation

Defined as the NHS organisation which treats the person with a stroke. This theme is concerned with the model of service delivery, resources and organisational politics. It identifies how some aspects of the organisation affects the amount of therapy a person receives.

#### Model of service delivery

The model of service delivery influences the achievement of the therapy guideline. People receiving ESD input are less likely to receive the guideline, as they receive less therapy than inpatients. Both focus groups report that most people receiving ESD do not receive more than one session per day, even if they have more than one therapy involved:

If they are patients who could really tolerate that higher intensity then they might have two 45 minute sessions or two therapies a day, but that's actually quite unusual and I think from a capacity point-of-view that's quite unusual and that's probably where the staff and the other factors start influencing... (FG2, p8, lines 27–30)

While one of the focus groups discussed people receiving ESD only wanting one visit per day, the other reported resource issues (such as staffing) impact people receiving more than one visit per day. This focus group finding is congruent with SSNAP data, which identifies that, on average, people receiving rehabilitation as part of ESD receive less time in OT and PT than people receiving inpatient rehabilitation after stroke.<sup>42</sup>

Theme one identified that someone receiving ESD may not prioritise therapy in favour of people wanting to 'get on with life'. Potentially, it is easier to provide therapy to people in hospital, as they are a captive audience, viewing therapy as a way of filling time or facilitating their discharge. Additionally, people who receive ESD tend to have had a mild to moderate stroke<sup>1</sup> and potentially have developed increased responsibility for themselves, as opposed to being reliant on healthcare professionals.<sup>22</sup>

The focus groups identified that a characteristic of ESD services that limits therapy delivery is the time-limited nature of services:

You kind of start off with 'you're going to have 6 weeks of therapy' and when the 6 weeks is up it feels a bit more comfortable to say, 'we can't see you anymore'. (FG2, p18, lines 14–16)

This suggests that people are discharged from ESD because they have received the service for a predetermined

amount of time, not because they are no longer benefiting from therapy, a requirement of the guideline. This is not identified as an issue for inpatients; however, inpatient therapists report the fast-pace and fluctuating caseloads, typical of the setting, makes therapy provision difficult:

We have no control over the number of patients on our caseload. (FG2, p23, line 25)

To the best of our knowledge, delivery of the 45 min guideline in ESD services has not been examined before in the literature.

# Resources

Resource availability influences therapy provision. Therapists believe that there are issues with both the number and availability of staff, which impacts guideline provision:

Yeah, we do have days where there's maybe sickness or people taking TOIL days for weekends and it all accumulates on one bad day (FG1, p23, lines 37–38)

Other research supports the finding that more staff results in improved achievement of the guideline<sup>18 20</sup> and sometimes, therapists make decisions about someone's suitability for therapy, based on resource availability.<sup>19</sup> Resource availability also impacts therapists' provision of more than once-daily therapy intervention, potentially limiting the provision of flexible, person-centred care. Therapists reported that when people find a single 45 min session unmanageable, they attempt to provide multiple shorter sessions. However, this is challenging:

So doing 3 lots of... fifteen minutes for every patient on your caseload... or the ones (who would benefit)... would be really tricky... (FG1, p16, lines 7–14)

Therapists in focus group two reported that they were able to provide therapy in this manner, because they are adequately resourced to do so:

Quite often we break our sessions up, so they may have 20 minutes in the morning and 25 minutes in the afternoon... we're lucky that we've got the staffing to be able to do that. (FG2, p4, lines 9–12)

The latest edition of the RCP guidelines for stroke recommend that people should 'accumulate at least 45 min of each appropriate therapy every day' (1, p25)and that early after stroke, short, regular interventions are preferable. This is an update on the fourth edition of the RCP guideline, which did not include the word 'accumulate' and does not advise short, regular therapy sessions. Focus groups' findings suggest that some settings find it challenging to provide multiple sessions, therefore, the inability to tolerate 45 min of therapy in a single session could be a reason why someone does not receive the recommended amount of therapy. Clarke *et al*<sup>18</sup> found that, when therapists were unable to deliver 45 min in one session, rarely did they return later.

# Organisational politics

Focus group findings suggest political aspects within the organisation influence the delivery of the 45 min guideline. Managers' interest in the 45 min guideline may also affect its provision. Therapists believe that managers 'judge' their performance against the achievement of such guidelines:

...Because it's more recognised by managers as something that we should be achieving or working towards and they're judging what we're doing... (FG1, p3, lines 2–3)

However, this has the benefit of protecting therapy staffing levels and highlighting staffing issues that have limited therapy delivery.

We've been able to justify the amount of staff that we had... we have been able to say 'Look—have you seen what our targets are? Do you know we have to see every patient for 45 minutes?' The only way you can do that is with a certain amount of staff. (FG1, p3, lines 29–33)

The nature in which SSNAP measures achievement of the guideline, corresponding to a published indicator of quality for an organisation lends a political aspect to guideline achievement and may influence the perception of the guideline. Although there is no specific penalty for guideline non-achievement, Trusts that do not achieve it could be viewed as 'underperforming'. Taylor *et al*<sup>19</sup> report concern among therapists regarding the effect that guideline performance may have on future commissioning decisions, specifically contract renewal, which could result in commissioner-centred care as opposed to patient-centred care.

#### Theme five: The guideline

The presence of the 45 min guideline and its measurement affect the amount of therapy a person receives. This theme considers the guideline as a therapy prescription, whether the guideline represents good practice and the measurement of its achievement.

## A therapy prescription

Therapists initially consider the guideline a 'prescription' for the amount of therapy everyone should receive:

When they first come in they're obviously having that daily input because everyone is for 45 minutes until you can, kind of, justify otherwise... (FG1, p21 line 46—p22 line 1)

This suggests that therapists must provide justification if a person is not receiving the recommended minimum amount. Indeed, Clarke and colleagues found that the guideline (specifically its measurement via SSNAP) shapes therapy delivery, with some therapists feeling a conflict between their clinical judgement that the person cannot tolerate a longer session and the implications this would have for their SSNAP score.<sup>18</sup> This conflict was demonstrated in the focus groups, with one therapist reporting that the requirement to provide everyone with 45 min

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of therapy may mean that those who require more than 45 min of therapy do not receive it:

If you're not needing to see the slow stream ones every day, you can maybe then provide a higher intensity to the higher level patients and go back and see them again, because.... not that you can't do that now, you just don't have the time because of every other patient that you're trying to see for 45 minutes...you don't have the opportunity to go back and see those patients that would really benefit from further input (FG1, p27 lines 15–21)

This indicates that there may be conflict between a therapist achieving the guideline for someone whose therapy benefit is questionable and providing enhanced therapy to someone who will benefit.

The presence of the guideline prompts further decisionmaking when under-resourcing limits therapy delivery. Therapists described two options in these circumstances; to see all people for less time, or to see fewer people for more time:

If you are low on staff, is it better that less patients are seen, but for 45 minutes and they might only get seen every other day or is it better that they get seen every day, but maybe only for a 20-minute session? I don't know... (FG2, p22, lines 23–26)

Potentially, practice differs between therapists in such situations, due to a lack of clarity regarding which approach provides the greater benefit.

Finally, during the focus groups, the 45 min guideline was regularly referred to as a target:

It's sort of given you a little motivating target, as a therapist, that, have all of my patient's had 45 min today? (FG1, p15, lines 34–36)

It is not clear from the focus groups if therapy usually stops when 45 min is reached, or if it continues, provided this is appropriate for the person.

# *Is the guideline right?*

Despite using the guideline to direct decisions about the amount of therapy provided, therapists acknowledge that 45 min is not right for everyone. For some people, 45 min of therapy is not enough:

And some patients...they almost need a lot more than 45 minutes to justify them staying in for therapy. (FG1, p26 line 38–p27 line 2)

In both focus groups, therapists report that their sessions are not limited to 45 min, if people required more than this:

...if we were going to do something in the community for their goals and it's going to take longer, we factor that in, because that's their goal, that's what they want to do, whether it's getting back in the swimming pool, whatever... so we don't just go 'I can't do that in 45 minutes, we can't do that activity. (FG2, p24, lines 5–10) For other people, it is acknowledged that therapy schedule, not just amount, may be important:

sometimes you feel like, actually, patients would benefit from a bit more little and often, rather than a 45 minute block. (FG1, p16, lines 7–9)

However, participants concurred that, for most people, the recommended minimum of 45 min was appropriate:

Most people would, sort of, tolerate 45 minutes, whereas, like, an hour for everybody, you know, it's not going to be realistic, but then half an hour you wouldn't get much done either, so it's kind of a nice balance. (FG1, p20, 35–37)

## Measuring guideline achievement

Throughout the focus groups, reference was made to the measurement of the guideline achievement via the SSNAP audit. At times, it appeared that the two entities (the 45 min guideline and the SSNAP audit) were interchangeable, meaning the same thing to therapists. They felt that, although time-consuming, auditing the guideline was beneficial, as it has raised its profile:

I think it's helped highlight it... the need to do the 45 minutes... there was such a push for, you have to get all of these patients in... and getting a good score. (FG1, p15, lines 5–14)

There was also discussion in the focus groups that SSNAP data collection for therapy stops when people no longer have active therapy goals:

Once they've achieved their, or they've not achieved their goals then they're discharged and that's their SSNAP data done. (FG2, p7, lines 19–20)

The practice of no longer recording SSNAP therapy data when a person is no longer receiving therapy is identified by Taylor and colleagues.<sup>19</sup> Similarly, Clarke *et al*<sup>18</sup> report inconsistency between stroke units regarding the recording of maintenance therapy. The practice of ceasing SSNAP therapy recording is at odds with SSNAP guidance, which states that, prior to discharge, SSNAP recording for therapy should cease when a person no longer has a deficit.<sup>4</sup> It is therefore possible that some people may not receive the guideline, because they have been discharged from SSNAP therapy recording.

## DISCUSSION

## **Summary of findings**

This study undertook focus groups with therapists, asking why a person with stroke might not receive the recommended minimum of 45 min of OT and PT, 5 days-perweek. Findings of this study suggest that reasons why a person does not receive the therapy recommendation in inpatient and ESD services relates to either suitability of the guideline for the person with stroke or the ability of the service to deliver the guideline.

Suitability of the guideline for the person with stroke depends on factors such as their medical status, their cognition, how well they are engaging with therapy and therapists' belief that they will benefit from therapy. SSNAP data indicate that OT and PT are suitable for 80% and 85% of people, respectively. However, some of the factors related to guideline suitability found in the focus groups indicate that there are people who are suitable for therapy but are not consistently suitable for the 45 min recommendation. It is not known if therapists use the same criteria to judge suitability for the guideline, or if there are inconsistencies between therapists' judgements, which could result in unwarranted variation in therapy delivery. The ability of the service to deliver the 45min guideline is due to lack of resources, therapists' competing priorities and issues related to the organisation of stroke care, findings that align with other research.<sup>18</sup><sup>20</sup> Our findings suggest that the suitability of the guideline and organisations' ability to deliver the guideline are linked, as therapists are required to choose between achieving the 45 min guideline for someone whose therapy benefit is questionable and exceeding the 45 min guideline for someone whose therapy benefit is clear. Therapists make these, and other decisions about therapy allocation against a background of under-resourcing. Lack of therapy resources results in therapists having to make hard choices, for which they feel significant personal responsibility.

In addition, there are factors that influence the delivery of therapy, such as organisational politics and the

guideline itself, including whether therapists believe it to be appropriate. These factors potentially vary between therapists and/or organisations which could lead to further inconsistency in therapy delivery.

The findings are organised into five themes (figure 2). Although the themes above are described in a linear fashion, they are interwoven. Figure 2 and its description demonstrate that reasons why a person might not receive the guideline recommendation are complex. The person is at the centre delivery of the guideline recommendation and, with their relatives/carers, interact with the therapist in a collaborative relationship. The therapist works within a stroke MDT, where they report a person's progress to the team and may gain advice or additional information from them to guide decisions. The MDT is situated within an organisation, which dictates the structure of the MDT, while the MDT 'provides' the organisation with a stroke service. There are also other potential connections and relationships between these groups. For example, a person with stroke's previous experience of an organisation may shape their expectations of the individual therapist; an organisation's culture may influence the actions of an individual therapist. Surrounding these interconnected groups is the guideline for 45 min of therapy, which has influence and importance at each level. One of the potential benefits of the 45 min guideline is its simplicity; it is relatively simple to understand and to measure. This simplicity contrasts with the obvious complexity related to its non-delivery found in this study.

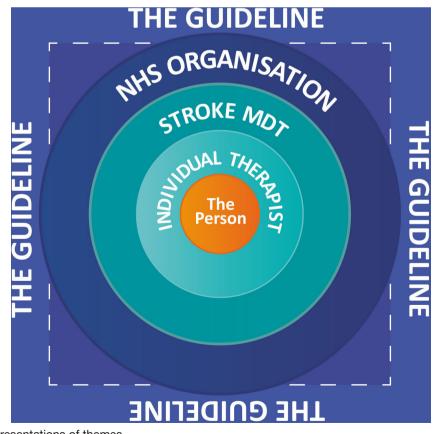


Figure 2 Pictorial representations of themes.

#### Strengths and limitations of this study

To the best of our knowledge, no other studies have explored delivery of the guideline beyond the inpatient setting. By including therapists with experience in ESD, this study was able to consider the applicability of this guideline in the community. A limitation of this is a lack of clarity regarding which of the results relate to ESD, which to inpatient, and which to both ESD and inpatient. Clarification was not consistently sought in the focus groups, to avoid disrupting the flow of conversation. Any distinction clearly made has been identified in the findings. Similarly, this study examined both the reasons why some people are not considered appropriate for the 45 min guideline, as well as reasons why some people do not receive the 45 min guideline, despite being considered appropriate. In execution of the focus groups, it became apparent that, from the therapists' perspective, there is not always a clear distinction between these two groups, as discussed above. Therefore, this study cannot always explicitly distinguish which findings relate to appropriateness for the guideline, and which relate to non-delivery of the guideline, despite it being appropriate.

The groups were pre-existing teams, which, while reducing breadth, aids group familiarity which has been shown to increase truthfulness.<sup>24</sup> Nevertheless, group members may have felt unable to disclose certain beliefs, due to fear of judgement.<sup>24</sup> Taylor and colleagues found that 'rivalry and mistrust' (19,p7) between services was apparent when discussing the SSNAP audit, so the presence of a clinician from another trust (BC) may have influenced the data collected. Recruiting participants from further afield may have reduced this issue. A further limitation was that there were no focus group members below band 6, meaning the practice of less experienced therapists was not explored. Due to the small number of participants, it is not possible to generalise the findings of this study to the wider stroke therapist population. However, the aim of this study was to explore reasons why the guideline was not achieved to inform the design of the subsequent Delphi study.<sup>23</sup>

#### Findings of this study in the context of prior research

Despite the identified areas of agreement, there are also differences between the findings of this study and those of similar studies. Other studies have found additional factors that affect the amount of therapy delivered. Gittins et  $at^{20}$  found that people with severe strokes received less therapy than those with milder symptoms. The focus groups did not directly identify that severity of stroke influences therapy provision, although they did discuss the influence of medical issues on guideline delivery. Therapists may not believe that it is the severity of stroke per se that influences the guideline delivery, but rather the resultant medical complications. Alternatively, it may be that therapists are uncomfortable with the idea that people with severe strokes receive less therapy without evidence to support such a decision. Research has identified other factors related to the person with stroke that

were not identified by focus group participants, possibly because they did not consider them relevant, such as level of social support,<sup>35 36</sup> gender<sup>20</sup> and ethnicity.<sup>20 34</sup> Prior research has identified that the time therapists spend in non-clinical tasks (eg, information exchange, paperwork and training), influences the amount of therapy delivered.<sup>18 21</sup> Therapists in the focus groups here did not identify this, potentially because they do not recognise that these tasks limit their therapy delivery since they are standard practice. A potential explanation for all of these differences is the difference in methods used between this and other studies.

Consistent with other studies,<sup>18 21</sup> focus group participants did not refer to evidence when discussing guideline delivery. Potentially, therapists believe that the guideline is based on sound research evidence and therefore, they do not need to consider further evidence. Alternatively, it may be that many therapists rely on their clinical experience, rather than research, to inform decision-making.<sup>43</sup>

A unique finding of this study is the application of the guideline in ESD services. The focus groups imply that there are issues with the implementation of this guideline in ESD, by suggesting that people with stroke do not always want this intensity of input once home, and, also, that some ESD services are not resourced to provide the guideline level of intervention. Although the guideline states the person should receive therapy '...for as long as they are willing and capable of participating and showing measurable benefit from treatment' (1,p25), it was acknowledged that their ESD services were timebound, meaning that, potentially, therapy has to stop even though a person may continue to benefit from receiving it.

Postdata-analysis, it was noted that the findings of this study show some similarities to the Consolidated Framework for Implementation Research (CFIR).<sup>44</sup> This is a meta-theoretic framework, derived from a synthesis of implementation models, to provide a framework to either evaluate the implementation of research into clinical practice, or to design an implementation study. The CFIR presents five domains that influence implementation: the individuals involved, the inner setting, the outer setting, the intervention characteristics and the implementation process. The CFIR domains show some overlap with the five themes identified in this present study. The person and the individual therapists are the individuals involved, features of the MDT and the Organisation parallel with features of the inner setting and the outer setting, respectively, and the guideline parallels with the intervention characteristics. These parallels likely exist as the 45 min has been (and continues to be) implemented into clinical practice. This study does not present any findings about the implementation process, possibly because this was not the objective of the study. Potentially, further analysis of the implementation of the 45 min guideline utilising the CFIR may highlight ways to improve the implementation of the guideline in clinical practice.

#### Findings of this study in the context of clinical practice

The guideline for 45min of OT and PT is based on consensus as opposed to research evidence<sup>1</sup> and is not achieved for all people suitable for therapy after stroke. This study has identified reasons why some people do not receive this level of intervention and the factors that influence therapy delivery in the context of the guideline. To the best of our knowledge, it is the first study to use focus groups to explore this question and the findings support the findings of other studies that have examined similar questions using ethnography<sup>19</sup> and mixed-methods case studies.<sup>18</sup> While the guideline is very clear in terms of the expectation for therapy delivery, services would benefit from clear guidance regarding the staffing numbers required to deliver the recommendation across the stroke pathway (including ESD) to support service managers in the development of business cases. While the RCP has provided comprehensive guidance for SSNAP reporting, therapists may benefit from clear, concise, evidence-based guidance for implementation of the guideline in clinical practice, particularly relating to prioritisation criteria when resources limit delivery.

# **Conclusions**

This study provides evidence for possible reasons why some people receiving OT and PT after stroke in England, Wales and Northern Ireland do not receive a minimum of 45 min of therapy, 5 days per week. Reasons relate to (1) the suitability of the guideline for people with stroke and (2) services' ability to delivery this amount of intervention. These two factors are related; therapists decide who should receive therapy and how much in the context of (a) resource availability and (b) people's need and the benefit they will experience. The requirement to deliver on the 45 min guideline may be at odds with clinical judgement. One consequence of these findings is that the 45 min guideline may not be fit for purpose; it may not improve quality of therapy provision and may not reduce unwarranted variation between services. Therefore, it could benefit from being reviewed.

Focus group findings contributed to the development of statements for the first round of a Delphi study<sup>23</sup> that gained consensus from a wider group of PTs and OTs regarding the reasons why a person may not receive 45 min of therapy after stroke.

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#### REFERENCES

- 1 Intercollegiate Stroke Working Party. *National Clinical Guideline for Stroke, 5th edn*. London: Royal College of Physicians, 2016.
- 2 Royal College of Physicians. *How good is stroke care? First SSNAP Annual Report*. London: Royal College of Physicians, 2014.
- 3 Bhalla A, McMullen E, Asfar A, et al. The Road to Recovery: The Ninth SSNAP Annual Report. London: Health Quality Improvement Partnership (HQIP), 2022.
- 4 Intercollegiate Stroke Working Party. SSNAP Helphotes for core dataset 5.0.0. London: Kings College London, 2021.
- 5 GBD 2016 Stroke Collaborators. Global, regional, and national burden of stroke, 1990-2016: a systematic analysis for the global burden of disease study 2016. *Lancet Neurol* 2019;18:439–58.
- 6 Oyewole OO, Ogunlana MO, Gbiri CAO, et al. Impact of post-stroke disability and disability-perception on health-related quality of life of stroke survivors: the moderating effect of disability-severity. *Neurol Res* 2020;42:835–43.
- 7 Lewthwaite R, Winstein CJ, Lane CJ, *et al.* Accelerating stroke recovery: body structures and functions, activities, participation, and quality of life outcomes from a large rehabilitation trial. *Neurorehabil Neural Repair* 2018;32:150–65.
- 8 Patel A, Berdunov V, Quayyum Z, *et al.* Estimated societal costs of stroke in the UK based on a discrete event simulation. *Age Ageing* 2020;49:270–6.
- 9 Legg LA, Drummond AE, Langhorne P. Occupational therapy for patients with problems in activities of daily living after stroke (review). *Cochrane Database Syst Rev* 2006;2006:CD003585.
- 10 Pollock A, Baer G, Campbell P, et al. Physical rehabilitation approaches for the recovery of function and mobility following stroke (review). Cochrane Database Syst Rev 2014;2014:CD001920.
- 11 Langhorne P, Bernhardt J, Kwakkel G. Stroke rehabilitation. *The Lancet* 2011;377:1693–702. 10.1016/S0140-6736(11)60325-5 Available: www.thelancet.com
- 12 Shing MW. Non-traditional occupational therapy interventions that promote community reintegration for individuals with stroke. *Emerging Practice CATs* 2011.
- 13 Lohse KR, Lang CE, Boyd LA. Is more better? using Metadata to explore dose-response relationships in stroke rehabilitation. *Stroke* 2014;45:2053–8.
- 14 Kwakkel G, van Peppen R, Wagenaar RC, et al. Effects of augmented exercise therapy time after stroke: a meta-analysis. Stroke 2004;35:2529–39.

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- 15 Langhorne P, Wagenaar R, Partridge C. Physiotherapy after stroke: more is better *Physiother Res Int* 1996;1:75–88.
- 16 Kwakkel G, Wagenaar RC, Koelman TW, et al. Effects of intensity of rehabilitation after stroke. A research synthesis. Stroke 1997;28:1550–6.
- 17 Clark B, Whitall J, Kwakkel G, *et al.* The effect of time spent in rehabilitation on activity limitation and impairment after stroke. *Cochrane Database Syst Rev* 2021;10:CD012612.
- 18 Clarke DJ, Burton L-J, Tyson SF, et al. Why do stroke survivors not receive recommended amounts of active therapy? findings from the react study, a mixed-methods case-study evaluation in eight stroke units. Clin Rehabil 2018;32:1119–32.
- 19 Taylor E, Jones F, McKevitt C. How is the audit of therapy intensity influencing rehabilitation in inpatient stroke units in the UK? an Ethnographic study. *BMJ Open* 2018;8:e023676.
- 20 Gittins M, Vail A, Bowen A, et al. Factors influencing the amount of therapy received during inpatient stroke care: an analysis of data from the UK sentinel stroke National audit programme. *Clin Rehabil* 2020;34:981–91.
- 21 McGlinchey MP, Davenport S. Exploring the decision-making process in the delivery of Physiotherapy in a stroke unit. *Disabil Rehabil* 2015;37:1277–84.
- 22 Langhorne P, Baylan S, Early Supported Discharge T. Early supported discharge services for people with acute stroke. *Cochrane Database Syst Rev* 2017;7:CD000443.
- 23 Clark B, Truman J, Whitall J, et al. Why do some people with stroke not receive the recommended 45 minutes of occupational therapy and Physiotherapy? A Delphi study. *BMJ Open* 2023.
- 24 Barbour R. Doing focus groups. In: *Doing Focus Groups*. 2nd ed. 1 Oliver's Yard, 55 City Road London EC1Y 1SP: Sage, 2018.
- 25 Braun V, Clarke V. Using thematic analysis in psychology. *Qualit Res Psychol* 2006;3:77–101.
- Vaismoradi M, Jones J, Turunen H, et al. Theme development in qualitative content analysis and thematic analysis. JNEP 2016;6.
   Braun V. Clarke V. Conceptual and design thinking for thematic
- 27 Braun V, Clarke V. Conceptual and design thinking for thematic analysis. *Qualitative Psychology* 2022;9:3–26.
- Mason J. *Qualitative Researching, 3rd edn*. London: Sage, 2018.
  Vaismoradi M, Turunen H, Bondas T. Content analysis and thematic analysis: implications for conducting a qualitative descriptive study. *Nurs Health Sci* 2013;15:398–405.
- 30 Ryan GW, Bernard HR. Techniques to identify themes. *Field Methods* 2003;15:85–109.

- 31 Charmaz K. Chapter 7: Memo-writing. Constructing Grounded Theory, 2nd edn. London: Sage, 2014: 162–91.
- 32 Green J, Thorogood N. Qualitative Methods for Health Research, 4th edn. London: Sage, 2018.
- 33 Braun V, Clarke V. To saturate or not to saturate? questioning data saturation as a useful concept for thematic analysis and sample-size Rationales. *Qual Res Sport Exerc Health* 2019;13:201–16.
- 34 Taylor E, McKevitt C, Jones F. Factors shaping the delivery of acute inpatient stroke therapy: a narrative synthesis. *J Rehabil Med* 2015;47:107–19.
- 35 Otterman NM, van der Wees PJ, Bernhardt J, et al. Physical therapists' guideline adherence on early mobilization and intensity of practice at Dutch acute stroke units: a country-wide survey. Stroke 2012;43:2395–401.
- 36 Hakkennes SJ, Brock K, Hill KD. Selection for inpatient rehabilitation after acute stroke: a systematic review of the literature. *Arch Phys Med Rehabil* 2011;92:2057–70.
- 37 Loetscher T, Lincoln NB, Lincoln NB. Cognitive rehabilitation for attention deficits following stroke. *Cochrane Database Syst Rev* 2013;2013:CD002842.
- 38 Skidmore ER, Whyte EM, Holm MB, et al. Cognitive and affective predictors of rehabilitation participation after stroke. Arch Phys Med Rehabil 2010;91:203–7.
- 39 Wade DT, Legh-Smith J, Hewer RA. Depressed mood after stroke. Br J Psychiatry 1987;151:200–5.
- 40 Hackett ML, Anderson CS, House A, et al. Interventions for preventing depression after stroke. Cochrane Database Syst Rev 2008:CD003437.
- 41 Foley N, McClure JA, Meyer M, et al. Inpatient rehabilitation following stroke: amount of therapy received and associations with functional recovery. *Disabil Rehabil* 2012;34:2132–8.
- 42 Sentinel Stroke National Audit Programme. National Results Clinical London. Kings College London, 2022. Available: https://www. strokeaudit.org/results/Clinical-audit/National-Results.aspx
- 43 Salbach NM, Guilcher SJ, Jaglal SB, et al. Determinants of research use in clinical decision making among physical therapists providing services post-stroke: a cross-sectional study. *Implement Sci* 2010;5:77.
- 44 Damschroder LJ, Aron DC, Keith RE, *et al.* Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science. *Implementation Sci* 2009;4:50.