'Flexibility is the name of the game': Clinicians' views of optimal dose of psychological interventions for psychosis and paranoia

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ABSTRACT

In the UK, NICE (2014) recommends a minimum of 16 sessions of Cognitive Behaviour Therapy for the treatment of psychosis. One of the barriers to implementation is that clinicians' views of optimum doses may not fit with this guidance. This study investigates the views of clinicians on the optimal dose of interventions. Fifteen clinicians participated in four focus groups and completed a bespoke questionnaire investigating experiences of dose in different contexts. We used the framework method for data analysis, with Voils et al. (2012) conceptualisation of dose as the frame.

We identified three deductive themes on dose components; number, frequency, and length of therapy sessions. In community settings, participants recommended 1–5 sessions for shorter-term goals, 10–12 sessions for longer-term goals, and highlighted the importance of review after 20–26 sessions. While a range of 16–26 sessions was identified as optimal, a consensus formed around dose being variable to each individual. In inpatient settings, number of sessions was largely dependent on length of stay. In community settings participants found it helpful to initially have weekly sessions and then transition to fortnightly, while in inpatient settings participants met with patients 1–3 times a week. In community settings, participants reported often delivering 50–60 min sessions (although that could vary); while in inpatient settings sessions lasted from 5 min to 2 h. Dose recommendations for community settings applied to digital therapies.

We constructed four inductive themes on how clinicians adapt dose in clinical practice; (1) context matters, (2) individualised treatment approaches, (3) flexibility is key, and (4) balancing clinical idealism and service constraints. Complementing the NICE guidance, our findings endorsed the use of a variable index of sessions to address variability in clinical need. The incorporation of stakeholder views is essential to contextualise quantitative evidence-based recommendations.

1. Introduction

Psychosis, and the associated paranoid thinking, is one of the most debilitating forms of mental illness, as it may severely impact all aspects of life including personal, family, social, and occupational functioning (Szkultecka-Dębek et al., 2016). Therefore, it is of critical importance that people who experience psychosis receive appropriate treatment to promote recovery and quality of life (Peate and Chelvanayagam, 2006).

One way to ensure people receive appropriate treatment, is by delivering an optimal dose. Voils et al. (2014) defines optimal dose as the maximally effective dose that produces the strongest therapeutic outcomes, such as symptom reduction and improved quality of life. Dose can be characterised by duration, frequency, and amount (Voils et al., 2012). Duration refers to the time period over which therapy is delivered (i.e. in months). Frequency refers to how often contact is made. Amount refers to the length of each individual contact. Number of

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sessions can be identified by multiplying duration and frequency. Beyond this definition, dose can also be characterized by other aspects, such as the intensity of the therapy in terms of the depth of the topics addressed (e.g. highly sensitive topics may be a higher dose independent of the other dose components) (Scott and Sechrest, 1989).

In the UK, the National Institute for Health and Care Excellence (NICE, 2014) recommends at least 16 sessions of cognitive behaviour therapy (CBT) and at least 10 sessions of Family Intervention (FI) for effective treatment of psychosis. These guidelines, however, present some limitations. Firstly, the evidence for the guidelines is based on only randomised controlled trials (RCTs). Secondly, the recommended number of sessions for CBT is informed by studies that had a *minimum* of 16 sessions, as opposed to systematically investigating a wide range of different doses. Thirdly, these guidelines do not provide specific recommendations concerning the remaining parameters of dose discussed above (i.e. duration of therapy, frequency of sessions, and session length) (Voils et al., 2012). And lastly, a review by Gastaldon et al. (2019) suggested that the guidelines lack pragmatism, as it showed that two-thirds of the RCTs used to develop the guidance did not capture real-world effectiveness in routine clinical settings. Clinicians must therefore rely on their clinical judgement and experience to fill many of these gaps (Chadwick and Billings, 2022; Court et al., 2017).

Though patient and public involvement (PPI) is widely recognised as essential to the development and improvement of intervention guidelines (NICE, 2013), the primary focus to date has been the need for additional quantitative research into therapeutic dose for psychosis (NICE, 2014). While many RCTs involve PPI, there remains a substantial opportunity to include the voices of key stakeholders more strongly in guideline development. By incorporating qualitative insights besides quantitative data, more impactful, pragmatic, and acceptable guidelines may be developed.

Research investigating optimal dose of psychological interventions usually explores the relationship between number of sessions and subsequent improvement. The dose-response model stipulates that the greatest response to treatment is observed in early stages of therapy, and as session numbers increase, the rate of improvement will eventually plateau, with diminishing treatment gains thereafter (Howard et al., 1986). However, studies investigating the dose-response effect often offer wide ranges of therapy sessions where optimal improvement is observed. For example, a study by Lincoln et al. (2016) - a randomized controlled trial involving a sample of 58 participants - proposed 25 sessions of CBT for psychosis (CBTp) as a more appropriate treatment dose than the NICE-recommended minimum of 16. Nevertheless, they reported varying optimal doses depending on symptom-specific targets, ranging from 5 to 45 sessions.

This variation in optimal dose is consistent with the good-enough level model (GEL), which states that the rate of improvement varies from person to person and that therapy should be terminated once patients have reached 'satisfactory improvement' (Bone et al., 2021; Owen et al., 2014). The responsive regulation model proposes that rate of improvement depends on the characteristics of the patient and therapist, such as type and severity of difficulties, external stressors, personal resources, and therapist skill (Stiles et al., 1998). Thus, these characteristics not only impact outcomes (Cross et al., 2022), but also play a key role in moderating individual optimal dose of therapy. Findings of numerous studies support the GEL model, as individual participant's rapid improvement was associated with shorter treatments (Falkenström et al., 2016; Stulz et al., 2013). However, these findings cannot be generalized beyond 12 to 20 sessions, and the literature on the effects of long-term therapy for psychosis remains limited.

Due to the great variability in treatment response, some have argued that standardised recommendations are not ideal for individuals with severe mental health difficulties (Nordmo et al., 2021). Instead, research suggests that collaborative planning on therapeutic dose between patient and clinician is fundamental to treatment efficacy (Court et al., 2017; Falkenström et al., 2016; Ince et al., 2016). Unfortunately, the availability and course of interventions for psychosis and paranoia under the NHS is not solely guided by evidence-based guidelines; external factors such as limited resources and long waitlists for therapy also play a key role (Court et al., 2017). A survey by the Department of Health and Social Care (2023) highlighted the public's demand for an improved evidence-base for interventions and an increase in personalized care. The survey also demonstrated the demand for digital resources, reflecting the importance of developing effective evidence-based digital therapies (Steare et al., 2021). Examples of these include avatar therapy, phone apps and computer-assisted cognitive remediation (CACR) (Clarke et al., 2019; Hardy et al., 2022).

Considering the numerous potential factors influencing the dose of a psychological intervention for an individual, it is crucial that the views and experiences of key stakeholders are captured in relevant research. Moreover, the complex nature of psychosis highlights the need for qualitative methods to investigate the experience of psychological intervention dosage from the perspective of those involved. A substantial body of research demonstrates the necessity of patient input for the quality of intervention implementation and patient-prioritised outcomes (Mockford et al., 2012; Price et al., 2018). Nevertheless, a gap remains in the literature concerning patient and clinician views on the NICE guidance for treatment dose of psychosis, which this study set out to address.

1.1. Aims

This study aimed to investigate the views of clinicians on optimal therapy dose of psychological interventions for psychosis and paranoia. Given the exponential rise of digital interventions for mental health (Rus-Calafell and Schneider, 2020), we also determined whether opinions on psychotherapy dose would apply to these alternative modes of delivery. We define digital interventions as any therapy delivered using technology, including remote face-to-face therapies (e.g. delivered through video or phone calls).

1.2. Research questions

What are clinicians' views of the optimal dose of psychological interventions for psychosis and paranoia? How do these views compare between face-to-face and digital therapies?

2. Methodology

2.1. Study design

We employed a qualitative design and followed the Reflexive Thematic Analysis Reporting Guidelines (RTARG) (Braun and Clarke, 2024). We followed a critical realist epistemology as we aimed to construct an account of the clinicians' experiences and views, based upon what we could observe through our investigation (Braun and Clarke, 2013).

2.2. Participant selection

We recruited participants through advertisement emails to clinical contacts within the South London and Maudsley (SLaM) NHS Trust psychosis services and LinkedIn. Inclusion criteria were as follows: qualified healthcare professionals with at least 2 years of experience in delivering psychological interventions for psychosis and paranoia, and English language proficiency. There were no exclusion criteria.

Steps were taken to achieve information power (Braun and Clarke, 2021; Malterud et al., 2016). These included employing purposive sampling to ensure relevance of the data to the study aims and assessing the quality of the data against the research aims throughout data collection; the first review was conducted following the initial two focus groups.

2.3. Dataset generation

We collected data through a custom-designed questionnaire and focus groups. We designed the questionnaire to gather information on participants' demographics, current practices, and beliefs on how psychological interventions should be planned. This questionnaire aimed to contextualise and improve the understanding of the qualitative data. We also developed a topic guide based on the existing framework of conceptualisation of dose (Voils et al., 2012) and on our research aims. Both the questionnaire and topic guide were reviewed by a clinical psychologist and piloted within the research team. These are provided in Supplementary File 1 – Materials.

Participants completed the questionnaire online via Online Surveys Software before attending the focus group. Two authors facilitated the focus groups over Microsoft Teams. Focus groups lasted between 53 and 58 min, and were recorded and transcribed automatically within Microsoft Teams. We revised the automated transcriptions for accuracy before the analysis (transcripts are available for review at: https://osf. io/dtgc7/). We offered participants a £20 Amazon voucher or bank transfer as compensation for their time.

2.4. Ethics

This study was reviewed and approved by the Riverside Research Ethics Committee (23/LO/0202; date March 09, 2023) and the Health Research Authority (IRAS number: 319,668, date March 27, 2023). Informed consent was obtained from all participants.

2.5. Data analysis

We used the Framework method (Goldsmith, 2021) to analyse the data as this approach allowed the development of a framework that was both deductive and inductive. It was deductive as it included pre-conceived codes and themes drawing on the existing framework of conceptualisation of dose (Voils et al., 2012). This has four core components of dose: duration of therapy, frequency of sessions, length of sessions, and number of sessions. We chose this frame as improved reporting of the dosing parameters can inform the identification of the most effective intervention doses (Voils et al., 2012). On the other hand, this framework was inductive as it allowed the construction of inductive themes from participants' experiences and opinions.

We completed all five stages of the framework method (Ritchie and Spencer, 1994) . First, we became familiarised with the data by facilitating the focus groups, transcribing, and reading the transcripts to develop a deep understanding of the clinicians' experiences and views. This immersion in the data allowed us to start constructing a theoretical framework. In this framework, we included a priori codes based on Voils et al. (2012) conceptualisation of dose (described above) and inductive codes that we constructed based on the data. We then indexed the data by systematically reviewing the transcripts, assigning specific codes to segments of text, and subsequently organizing these codes into themes. This led us to refine the framework. Following this, we charted the data into a matrix, which involved summarizing the data into a table to compare the findings of the different focus groups. And finally, we mapped the data to create a coherent narrative. We conducted indexing, charting, and mapping as an iterative process. Two authors completed all steps independently and discussed their findings in regular meetings, where discrepancies were resolved. Codes and themes underwent rigorous examinations in meetings with a senior author and the wider research team. We used NVivo14 (qualitative analysis software) to support the data analysis.

2.6. Researcher reflexivity

The research team included a PhD student, a MSc student, a clinical psychologist, a psychiatrist, and two experts in psychosis research. The entire team was working on a trial assessing a digital therapy for paranoia and most had experience conducting qualitative research. The first author facilitated the focus groups. Her experience in delivering low-intensity interventions for psychosis may have influenced the focus not only on the theoretical but also on practical aspects of psychotherapy dose. The team's diverse cultural backgrounds and range of expertise allowed for a comprehensive analysis of optimal doses. This diversity enabled team members to construct themes that otherwise could have been overlooked due to individual backgrounds and experiences. Thus, these different lenses and viewpoints informed how data was interpreted, for example, coding and links between themes varied depending on background and expertise, which may have led to richer research findings.

3. Analysis

3.1. Participant characteristics

Sixteen participants took part in the study. Fifteen participants were recruited from SLAM Psychosis services and one from LinkedIn. Only fifteen participants took part in the focus groups, due to a last-minute drop out. Four focus groups were conducted, with between two and five participants (N = 5, 4, 4, 2). Participants were between 26 and 65 years old, female (75 %), and White British (56.3 %). Most participants were clinical psychologists (94 %), worked in Community Mental Health Teams (50 %), with adults with psychosis (37.5 %), and had practiced as qualified clinicians for over 10 years (50 %). Further details of participant characteristics are presented in Table 1.

Table 1
Participant characteristics.

	N (%)
Age	
26-35	5 (31.3)
36-45	6 (37.5)
46-55	4 (25)
56-65	1 (6.3)
Sex	
Female	12 (75)
Male	4 (25)
Ethnicity	
Asian/Asian British	1 (6.3)
Black/Black British	1 (6.3)
White British	9 (56.3)
White Other	4 (25)
Mixed/Multiple Ethnic Groups	1 (6.3)
Occupation	
Consultant Clinical Psychologist	3 (18.7)
Principal Clinical Psychologist	3 (18.7)
Senior Clinical Psychologist	1 (6.3)
Clinical Psychologist	7 (43.7)
Counselling Psychologist	1 (6.3)
Current service setting [a]	
Community Mental Health Team	8 (50)
Early Intervention	5 (31.3)
Acute Inpatient [b]	1 (6.3)
Adult Mental Health Services	3 (18.7)
Other	6 (37.5)
Patient group [a]	
Adults with Psychosis	6 (37.5)
First Episode Psychosis	3 (18.7)
Adults with severe mental illness	3 (18.7)
Other	4 (25)
Years practicing as qualified clinician	
1–5 years	4 (25)
6–10 years	4 (25)
>10 years	8 (50)

[a] Multiple responses permitted.
[b] Only 1 participant reported working in inpatient settings on the survey, however 2 other participants reported working in inpatient settings in the focus groups.

3.2. Questionnaire data

Sixteen participants completed our bespoke questionnaire. A detailed account of participant responses is provided in Supplementary File 2 – Results. Most reported practicing CBT (n = 15), CBT for psychosis (CBT-p) (n = 9), and Acceptance and Commitment Therapy (n = 8). Many clinicians reported delivering 16–24 sessions (n = 5), over 6–12 months on average (n = 8), at a weekly frequency (n = 15), with most sessions lasting 50–60 min (n = 14). Most participants offered booster sessions that ranged between 1 and 6 sessions (n = 12).

All participants reported considering patient's impressions (N = 16) when measuring improvement in therapy. Most participants also reported using standardised outcomes (N = 15) and clinician's impressions (N = 15). All participants (N = 16) agreed that clinician and patient's views should be considered alongside quantitative evidence of efficacy when deciding treatment dose. Most participants (N = 9) explicitly or implicitly reported that the balance should be equal between stakeholder views and quantitative evidence of efficacy. The remaining participants implicitly gave stronger weight to clinician and patient views (N = 3), emphasized the important role of quantitative evidence (N = 1), or were unsure (N = 1).

Overall, the questionnaire findings provided insights into the doses that clinicians actually deliver in clinical practice (vs their concepts of 'optimal dose'), elucidated further factors moderating dose, and reinforced the importance of booster sessions. Using triangulation of sources provided further completeness of findings and ensured the quality of our naturalistic inquiry (i.e. qualitative data; Tobin et al., 2004).

3.3. Findings

When asked about duration of therapy, many participants reported number of sessions rather than a specific timeframe (e.g number of months) reflecting the ambiguity of the term 'duration'. This led us to adapt Voils et al. (2012) conceptualisation of dose framework, and to only include 'number of sessions', 'session length', and 'frequency' as deductive themes. For each theme, we compared community, inpatient, and digital contexts. Unless specified otherwise, 'digital contexts' refers to therapies delivered via phone or video calls, as clinicians had limited exposure to purely digital interventions. When participants mentioned 'face-to-face contact', they were exclusively referring to in-person contact. We also constructed four inductive themes on how clinicians adapt dose in clinical practice: 'context matters', 'individualised treatment approaches', 'flexibility is key', and 'balancing clinical idealism with service constraints'.

3.4. Deductive themes

1. Number of sessions

In community settings, participants expressed similar views across the minimum, optimal, and maximum useful number of sessions. Most participants agreed that less than 5 sessions can be helpful for shorter-term goals (e.g. assessment, psychoeducation) and that 10–12 sessions are the minimum required for longer-term goals. The latter range better accommodates initial difficulties with engagement. Participants also reported great difficulty assigning a standardised optimal dose due to it being largely dependent on the individual.

'It's really hard to say what the optimal amount is. It really varies from person to person.' (FG3, P12)

Overall, participants considered 16–26 sessions to be the most helpful range. However, this range may be insufficient or excessive for some patients. Two participants were unable to identify an optimal number of sessions. This inability to identify a specific standardised optimal number of sessions is reflective of the complexity of presentations and the consequent need for personalized treatments. Though

some participants agreed that there is no maximum useful amount of therapy, all participants believed that regular reviews with clinical supervisors are needed after completing 20–26 sessions. This displays participants' drive to improve the effectiveness and experience of the therapy, or in other words, quality of care.

'We have a guiding rule that if you've reached 26, you have to take them to every supervision to keep track on what you're doing and whether it should continue or not.' (FG2, P9)

In inpatient settings, most participants could not identify an optimal number of sessions due to the variability in patients' length of stay and levels of engagement. The general consensus was that the more sessions the more useful, but that even one session is beneficial. Thus, clinicians must be flexible when planning treatments and maximise the use of the time available.

'Ideally, you'd have a few engagement sessions and then some intervention work, and then some sort of consolidation and ending work. Realistically, it differs, but the average inpatient stay is between 4 and 6 weeks, so you're limited anyway.' (F4, P14)

In digital contexts, participants' views on the minimum, optimal, and maximum useful number of sessions did not differ from those for in-person interventions. Thus, mode of delivery does not seem to impact the optimal number of sessions.

'I've not really found a difference in my experience of working with clients virtually vs face-to-face (…) it doesn't really impact the number of sessions that I might offer' (FG2, P6)

2. Frequency of sessions

In community settings, all participants agreed that sessions should initially be held weekly to promote building a therapeutic relationship and then spaced out to fortnightly or monthly towards the end of therapy. This decrease in session frequency promotes patients' empowerment and consequent autonomy.

'I always aim for weekly. And depending on the stage of therapy, that might extend out towards the end.' (FG2, P8)

A few clinicians discussed having bi-weekly sessions when doing trauma work or when clients are experiencing negative symptoms of psychosis.

'Sometimes we'll do twice weekly sessions when we're doing the trauma work to try and maximize the number of sessions within that therapy window.' (FG1, P5)

In inpatient settings, participants highlighted the importance of being flexible, as the length of stay is unpredictable and often short. Participants reported delivering sessions 1–3 times a week, depending on patients' needs and their own capacity.

'You have no idea whether you're going to see this person again next week. So you have to be really flexible, so sometimes, I can see a person twice a week or three times a week, just because there might be a small piece of work that I'm focusing on.' (FG1, P1)

In digital contexts, most participants agreed that the frequency of sessions does not differ from face-to-face. However, one participant reported that if patients have access to a therapeutic app that they may use it multiple times per day (i.e. as needed). This demonstrates digital interventions' ability to improve accessibility and intensity of support.

'The client was using the app several times a day (…) as paranoia was coming up for her.' (FG1, P5)

3. Length of sessions

In community settings, though the standard length for therapy sessions was said to be 50–60 min, certain types of therapy, such as trauma-focused therapy, behavioural experiments, and EMDR required 90–120 min. In addition, clients with lower tolerance may require shorter sessions. Thus, it is crucial for clinicians to consider both the type of therapy and the patient's tolerance when determining session length.

'I'll say [to the client] 'we've got up to 50 minutes, but if that idea horrifies you … then we'll do it for 20 and then we'll build up'. (FG4, P14)

In inpatient settings, participants reported that sessions ranged from 5 min to 2 h, and that this depended on the patients' therapeutic relationship with the clinician and tolerance. This reflects clinicians' need to prioritise building a therapeutic relationship before attempting to deliver an intervention, as this may drastically increase session length.

'Sometimes people will tolerate sitting down for 5 or 10 minutes. There are occasions when if you develop a relationship (…), you can get something that resembles more of an intervention around 20 minutes or maybe half an hour.' (FG4, P14)

In digital contexts, most participants did not find differences in session length compared to in-person sessions, with the exception that a few people reported that sessions over the phone tended to be shorter (around 20–45 min).

'On the phone it was shorter, but maybe more 45 minutes in my case.' (FG2, P6)

3.5. Inductive themes

1. Context matters

The context in which therapy takes place (i.e. community or inpatient) emerged as one of the most influential factors when determining the number, frequency, and length of sessions. This was considered due to different contexts being associated with different opportunities and constraints. For example, participants reported that when working in community settings, they can often see patients for an extended period over several sessions, which may not be possible in inpatient settings.

'I would say within the service constraints, I would want to be led by the patient telling me whether they felt they have had enough'. (FG4, P14)

This was also mirrored in inpatient settings, as participants reported being able to deliver sessions more frequently due to unpredictable and short lengths of stay, which may not be possible in community settings.

'Because of the constraints of being on the ward two days a week, I would usually see people weekly (…) unless, as a team, we'd formulated a need for something slightly more intensive' (FG4, P14)

In contrast, participants reported that whether the therapy is delivered in a face-to-face or digital context does not impact dose. This suggests that the dose delivered is not impacted by the mode-of-delivery, but by the patient's external context.

2. Individualised treatment approaches

All participants highlighted the importance of individualised therapy doses to meet patients' needs and preferences. Participants recognised the significant impact of timing on therapy dose, as patients' life events and mental health states may affect readiness for therapy and engagement. This is particularly relevant as lengthy waiting lists may reduce patients' readiness and motivation by the time they can start treatment. In addition, most participants considered patients' needs and goals when deciding therapy dose. Mental health comorbidities and psychiatric

hospitalisations were identified as further factors requiring deviations from standardised approaches. Therefore, a one-size-fits-all approach to dose was not considered suitable for individuals with complex mental health needs.

'In the CBTp that we deliver [people pick] what aspect of things related to their psychosis they want to work on. It's probably the most effective way to work rather than this manualized approach where it doesn't necessarily fit the client's needs.' (FG3, P11)

Many participants agreed that building a trusting therapeutic relationship is fundamental to delivering effective interventions. This may take several sessions (e.g. 6 sessions) and be facilitated by more frequent sessions (i.e. weekly).

'I would be thinking that less than fortnightly might be tricky in terms of keeping the momentum going, and keep building that relationship and keeping trust going.' (FG2, P7)

Several participants acknowledged that the need to show their vulnerability and be open at the beginning of therapy, represents an understandable and significant challenge for most recipients of therapy. Opening up may also be associated with feelings of shame and self-judgement. Thus, by taking the time to build rapport and create a sense of safety, clinicians thought they would be more able to support their clients and potentially improve therapy outcomes.

'One of the fears I have going forward is that there's not enough time, potentially in some iterations of therapy for people to feel safe enough to open up and to think this is worth me sharing a bit more of myself.' (FG1, P3)

3. Flexibility is key

Participants highlighted the importance of working flexibly, as treatment plans often require adjustment throughout the course of therapy. Participants reported conducting regular progress reviews with their clients and team members (i.e. care coordinators, psychiatrists, and clinical supervisors). This ensures that treatment plans are collaborative and remain aligned with patients' evolving needs. In turn, this may foster feelings of empowerment and control over their own treatment.

'Reviewing progress and how people are feeling in relation to the therapy goals, I think that really is what helps to guide how many more sessions we might offer. And agreeing that with the client as well. Really being collaborative in that.' (FG2, P6)

Many participants encouraged patients to return to therapy after finishing an initial therapy course, as this gives them time to implement the new skills learned and to receive a boost later if needed. In addition, participants reflected on the value of offering different treatment modalities (i.e. in-person vs digital). By allowing patients to take breaks from therapy and to choose how to attend sessions, clinicians embraced working flexibly to better meet patients' needs and improve their experience of therapy.

'I think choice is really important. Some people have said they like to mix, so to be able to have a chunk of it be digital but then have opportunities to meet face-to-face. Flexibility and matching people's needs and preferences is ideally what we're offering.' (FG1, P3)

4. Balancing clinical idealism and service constraints

All participants reflected on the need to balance ideal clinical practices and service constraints when planning and delivering therapy. Most participants identified long waiting lists and limited funding as barriers to offering an extended number of sessions, as this directly

impacts the amount other patients receive. Participants also reported often having to reduce session length due to an increased demand for room space in both community and inpatient settings. This compromise in number of sessions and session length was seen as likely to impact outcomes negatively.

'The waitlist is an issue, and there comes a point where we have to move someone on or bring the therapy to a close to manage those demands as well'. (FG2, P6)

While participants reported finding therapy guidelines useful and reassuring, some still reported that these do not account for complex clinical groups and, therefore, can be difficult to adhere to. Similarly, one participant reported that the design of mental health services in the UK is often based on evidence that is poorly reflective of their clinical reality. Together, these critiques highlight a discrepancy between evidence-based guidelines and the reality faced in services, and the subsequent need for personalized approaches.

'I feel that the current guidelines – you might get really stuck and it's only because they're trying to make services efficient [...]. So they're looking at the evidence base for guidance. But because they haven't got that real breadth of experience working with people therapeutically, they don't quite get the range of complexities.' (FG1, P2)

3.6. Thematic mapping of findings

Together the themes arising from our study provided an overview of the process that clinicians go through when adapting psychotherapy doses to maximise effectiveness. We found that evidence-based recommendations do guide the delivery of psychosis services and what is offered to patients. However, we also found that the context in which the therapy is delivered influences the number, frequency, and length of sessions, but that treatment modality does not. Our findings emphasize the importance of personalized treatments and of flexibility during

treatment planning and delivery. Clinicians evaluate and adapt therapy doses as patients' needs and circumstances evolve. These processes are then moderated by service constraints. These disrupt the implementation of the 'optimal dose' and result instead in the implementation of the 'optimal dose under clinical practice constraints'. Fig. 1 illustrates a mapping of the processes clinicians adopt in reality to maximise dose effectiveness in clinical practice.

4. General discussion

4.1. Summary of findings

This qualitative study aimed to investigate clinicians' views of optimal dose of face-to-face psychotherapies for psychosis and paranoia, and whether these opinions apply to digital therapies. The most prevalent type of therapy administered was CBT, and thus, our results may predominantly reflect the principles associated with CBT and its variations.

We identified three deductive themes on dose components; number, frequency, and length of therapy sessions. In community settings, participants recommended 1–5 sessions for shorter-term goals, 10–12 sessions for longer-term goals, and highlighted the importance of review after 20–26 sessions. The findings suggest that there is great difficulty with assigning a standardised optimal number of sessions of psychological therapy for psychosis and paranoia, as clinicians agreed that this is largely dependent on the individual (Deductive Theme 1). Nevertheless, an indicative range of 16–26 sessions was identified as being optimal in community settings, with the recognition that this range could either be excessive or insufficient, due to the complexity of psychosis presentations. These views remained consistent for digital therapies. In inpatient settings, number of sessions was largely dependent on length of stay.

Regarding session frequency, in community settings participants found it helpful to initially have weekly sessions and then transition to
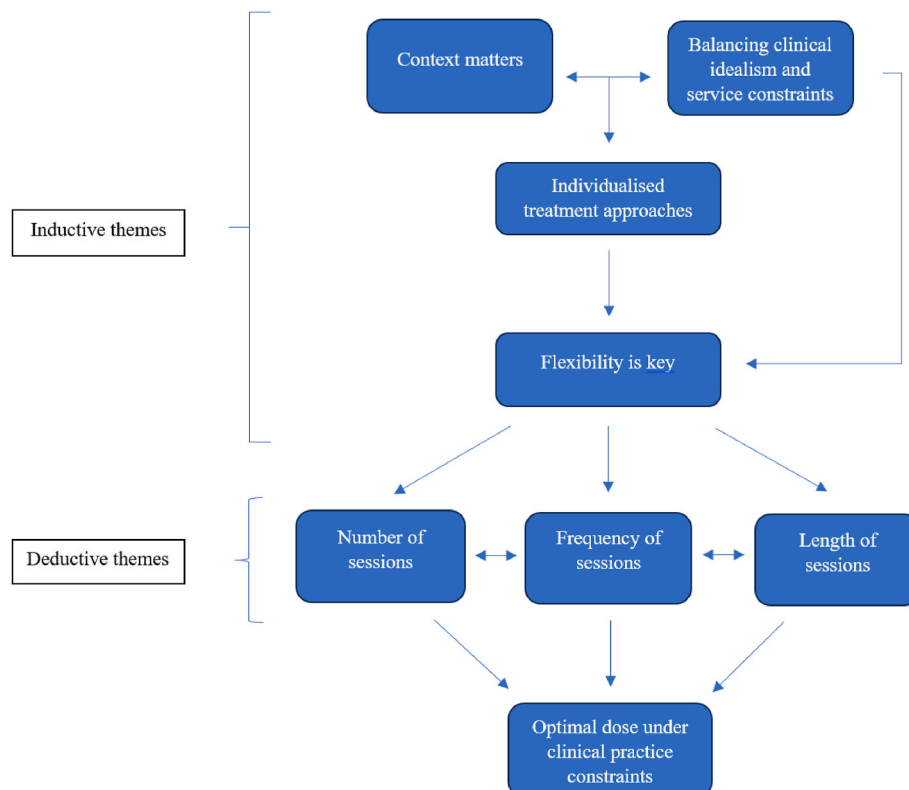

Fig. 1. Mapping of clinician processes to adapt dose to maximise effectiveness in clinical practice.

fortnightly, while in inpatient settings participants met with patients 1–3 times a week. In terms of session length, in community settings participants reported often delivering 50–60 min sessions (although that could vary); while in inpatient settings sessions lasted from 5 min to 2 h. Again these findings applied to digital therapies.

A high similarity was observed across clinicians' process of therapy planning and delivery, as context (Inductive Theme 1), therapeutic guidelines (Inductive Theme 4), individualised treatment approaches (Inductive Theme 2) and flexibility (Inductive Theme 3) acted as strong forces influencing the course of therapy. The interplay between these forces is then moderated by service constraints (Inductive Theme 4), and result in the implementation of the 'optimal dose under clinical practice constraints'. Perceptions on the dose components, and on the process of therapy planning and delivery were complemented by the quantitative data. Most participants agreed that stakeholders' views should have equal or more weight than quantitative evidence of efficacy when deciding treatment dose.

4.2. Contextualizing findings within previous research

Whether the clinician works in a community or inpatient context significantly impacts the decisions on all dose components (Inductive Theme 1), as each context is associated with different barriers and opportunities. Whilst in the community clinicians tend to schedule weekly 50-min sessions for prolonged periods, in inpatient settings clinicians need to adapt to the needs of the patients in terms of the number, frequency, and length of sessions, due to brief lengths of stay. These findings highlight the need for guidance for different contexts, which are currently very limited. Most of the evidence shaping the NICE guidance (2014) is based in the community, and thus does not apply to inpatient settings. Research besides ours has started identifying adaptations needed to ensure acceptability and effectiveness of psychological therapies in inpatient settings (Wood et al., 2019), but further work is needed.

The need to implement individualised treatment approaches was another key finding (Inductive Theme 2). Considering patients' timing in life, mental health state, and goals for therapy, were key factors in therapy planning, as willingness and capacity to engage in therapy impact all dose components. The engagement period was recognised as crucial not only for the patient, but also for the clinician, as clinicians require time to formulate an understanding of the patient and develop a therapeutic relationship. This is in agreement with previous studies which have demonstrated that a one-size-fits-all approach to evidence-based treatments does not address the needs of people with psychosis, and that there is a need to target subgroups or ultimately individual patients (Griffiths et al., 2022; Newman-Taylor and Bentall, 2024). By addressing the individualised needs and goals of their patients, clinicians will be more able to support their recovery. This point sits comfortably alongside the increasing focus on personalized medicine and therapeutic approaches within both psychiatry and psychology.

The importance of flexibility was repeatedly emphasized, as individuals' needs and circumstances change throughout the course of therapy (Inductive Theme 3). Collaboration with patients and other service staff seems to play a crucial role when deciding dose, which has previously been demonstrated in the literature (Court et al., 2017; Falkenström et al., 2016; Ince et al., 2016). Collaboration with patients is often implemented through regular progress reviews, to ensure that the therapy is meeting patients' evolving needs and goals. This collaboration is supported by research that suggests that shared decision-making may increase treatment adherence (Pérez-Revuelta et al., 2023), and by a meta-analysis that showed that shared-decision making has beneficial effects on indices of treatment-related empowerment (Stovell et al., 2016). This approach allows clients to shift their focus in therapy as progress is made, meaning that it is better to set a few sessions at a time with the option to extend after review than to set them all at once. This can help clients to feel more at ease when beginning

therapy, as opposed to making a large commitment to an intervention where they may be unsure of what to expect or how and whether they will benefit. These flexible and collaborative strategies should also be embedded into integrated care pathways. This can be achieved, for example, by facilitating multidisciplinary team discussions to balance individual needs with pathway goals and by conducting regular assessments to adapt plans in response to each patient's ongoing needs. Though collaboration is essential, clinicians also highlighted the importance of giving agency to their patients in order to instill confidence and trust, which aligns with previous research (Corrigan et al., 2024). This is reflected by clinicians offering patients the choice of taking a break from therapy or to decide if they want to attend sessions in person or digitally.

The final inductive theme related to the need for clinicians to balance clinical idealism with service constraints, such as long waiting lists and limited funding (Inductive Theme 4). Several clinicians reflected on the role that these limitations play in their ideas of therapy dosage, especially in the decision to end therapy, where the pressure of waiting lists and funding restrictions guide the maximum amount of therapy that patients may be offered in community settings. This goes against research suggesting that the highest quality of care (and most cost-effective) is provided when termination of therapy occurs when no further progress can be expected if a client continues to receive the same treatment (Harnett et al., 2010). However, it is important to note that both recommended therapies for psychosis (CBT and FI) aim to equip patients with the tools to manage ongoing triggers – like voices or problematic interactions – in the longer term, potentially leading to further gains following the end of therapy. Nonetheless, our findings suggest that flexibility is necessary for circumventing service restrictions, which is supported by previous research demonstrating the need to adapt guidelines to service regulations (Court et al., 2017). In this case, clinicians may offer digital interventions to maintain momentum in therapy if a service has limited availability or may allow patients to pause therapy and revisit if needed to regulate service capacity. This need to balance pragmatism in service settings with the empirical data on optimal outcomes and recommended treatments can also be found in physical health care services. In this case, patients may not have access to the best treatments due to cost considerations or regional variations in commissioning and service provision. Therefore, collaboration between clinicians, researchers, and policymakers is critical to ensure the best realistic practices are implemented in both mental and physical health sectors.

Overall, themes were consistent with the GEL model (Bone et al., 2021; Falkenström et al., 2016; Owen et al., 2014), and support the argument for individualised over standardised doses of therapy. These results are particularly important in services in which commissioners may be inclined to plan fixed doses of therapy due to limited resources and the need to effectively manage service delivery.

4.3. Strengths and limitations

This study presents several key strengths. Analyses were conducted separately and compared by two authors to ensure richness and depth of analysis, and information power. The triangulation of data through integration of both quantitative and qualitative data strengthened the credibility of the findings. The mapping figure provides an overview of how clinicians adapt dose to maximise effectiveness in clinical practice and thus provides important insights into how to optimise treatment strategies for psychosis. Lastly, this study also introduces a new perspective to the literature on psychotherapy dosage for psychosis and paranoia by looking into the views of clinicians and their experience within the context of different service settings and digital mediums.

Limitations around recruitment may have impacted the data. For example, our sample had low ethnic diversity, as most participants were white-British or white-other. Though achieving generalisability was not the purpose of our research, additional data to represent the viewpoint

of professionals from different cultures would add value, especially where the primary patient group receiving therapy frequently has an overrepresentation of black males. Additionally, participants had limited exposure to digital interventions beyond interventions over phone and video calls, meaning the impact of digital interventions (i.e. apps, virtual reality, etc) may not have been fully represented in our data. This is reflective of the early stage of development of most digital therapies and of their current omission from NICE guidelines, despite some early value assessments (NICE, 2024) and provisional recommendations (Iacobucci, 2023).

4.4. Implications and future research

This study demonstrates that while clinicians often use the NICE recommendations to inform their practice, these guidelines do not account for the nuance involved in meeting the clinical and practical needs of individuals treated within current services and constraints. As highlighted by our participants, the particular context of a service setting greatly impacts on clinician opinions on the appropriate number of sessions. Thus, future research should explore separately how different stages of psychosis (e.g. at-risk mental state and first episode of psychosis) and different settings influence clinicians' perspectives on dose. In addition, most participants routinely delivered CBT in their practice, reflecting its status as a NICE recommended therapy. Future research should explicitly document participants' formal training in specific therapeutic approaches, in order to improve the relevance of the findings.

To better capture the intricacy of treating psychosis and paranoia, it is necessary for the evidence-base of NICE guidance to include stakeholder views on the recommended dose of psychological interventions. This would aid in contextualizing treatments and increasing clinical pragmatism, but more importantly, it would give a voice to the individuals who the guidelines directly impact. Given the highly controlled nature of RCTs, previous literature has questioned the applicability of NICE guidelines in clinical settings. This situation is set to improve with the increasing focus on implementation science, which supports methodologically strong studies of real-world effectiveness and can include focus on pragmatic factors that are likely to impact upon effective uptake of novel therapies.

The present study focused only on clinicians' opinion. Further research is needed to explore patients' opinions on the optimal dose of psychological interventions for psychosis and paranoia, as existing work demonstrates the significance of patient contributions to quality guideline development (Armstrong et al., 2018; Mockford et al., 2012). Armstrong et al. (2018) have shown how patient representatives personalize the delivery of interventions and consider the impact of illness on individuals in ways that professionals may not. Thus, incorporating patient views alongside clinician opinions is essential to completing the narrative between the patient-clinician experience of interventions, especially since respective views may differ (McCabe, 2021). Finally, an update of current guidelines is essential to reflect the growing use of digital interventions in clinical practice (Rus-Calafell and Schneider, 2020).

5. Conclusion

NICE guidelines are used to shape the delivery of mental health services and the practice of clinicians within these services. However, the shared experiences of clinicians in our study demonstrated how decisions around dose of psychotherapy are significantly influenced by the setting, patient-dependent factors, clinicians' flexibility, and service constraints. This often results in the implementation of the 'optimal dose under clinical practice constraints'. While we do not endorse subtherapeutic doses, it is crucial to acknowledge and better understand the realities of service constraints within psychosis mental health services, and the consequent pragmatic approaches that are implemented

to maximise benefits within available resources. This situation mirrors the challenges faced in physical healthcare settings. Thus, clinicians, researchers and policymakers should collaborate to implement the most effective and realistic practices within healthcare.

Complementing the NICE guidance of a 16-session minimum therapeutic dose for psychosis and paranoia, our findings highlighted the importance of multiple other factors which determine the optimal dose in clinical practice, for both face-to-face and digital therapies. More broadly, participatory design and the incorporation of stakeholder views in guideline development is essential to appropriately contextualise quantitative evidence-based recommendations in psychosis services.

CRediT authorship contribution statement

Carolina Fialho: Writing – review & editing, Validation, Supervision, Resources, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Alya Abouzahr:** Writing – review & editing, Writing – original draft, Visualization, Validation, Resources, Investigation, Formal analysis, Data curation, Conceptualization. **Pamela Jacobsen:** Writing – review & editing, Formal analysis. **Sukhi Shergill:** Writing – review & editing, Supervision, Conceptualization. **Daniel Stahl:** Writing – review & editing, Supervision. **Jenny Yiend:** Writing – review & editing, Supervision, Resources, Project administration, Methodology, Conceptualization.

Declaration of Generative AI in scientific writing

During the preparation of this work one author used ChatGPT in order to improve its readability and language. After using this tool, the author reviewed and edited the content as needed and takes full responsibility for the content of the published article.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.ssmmh.2025.100442.

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