

**Title:** A qualitative investigation of staff's practical, personal, and philosophical barriers to the implementation of a web-based platform in a child mental health setting

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## **Abstract**

*Aim:* To provide an understanding of the factors that discouraged staff members from using a new web-based platform (CAMHSweb) with young people in a child and adolescent mental health service (CAMHS). Although evidence-based service improvement technology like CAMHSweb is becoming more common in child mental health, the staff-level barriers to the use of web-based platforms have not been explored in depth in the literature. *Method:* Semi-structured interviews with six employees were carried out in a London-based child mental health service that a preliminary audit had identified as having a poor utilisation of the platform. All participants had previously been invited to use the platform as part of their clinical work. Results were analysed using thematic analysis (Braun and Clarke, 2006). *Findings:* Three overarching themes covered staff's practical, personal and philosophical barriers to implementation. Interviewees believed that CAMHSweb was too challenging to implement, that it was not an asset to therapists, and that it interfered with the therapeutic process. *Discussion and Implications:* These findings provide a nuanced understanding of the multiple factors that may discourage clinicians from using web-based platforms. This may have implications for researchers or practitioners who aim to design or implement technology in child mental health services.

**Key Words:** web-based platforms, evidence-based technology, CAMHS, qualitative research, implementation, service improvement.

## **Introduction: Web-based platforms in healthcare**

Over the last 20 years, web-based platforms for delivering and enhancing healthcare have become ubiquitous. The term “web-based platform” is being used here to describe an interactive webpage or portal requiring access through a web browser on a computer, tablet, or smart phone. These platforms can contain health information, tools for use within healthcare, computerised therapeutic approaches, interactive games, and/or outcome measures, and they can be personalised with a user profile requiring a login.

Potentially, web-based platforms can save time and money for health services, facilitate the work of clinicians, streamline the therapeutic process, improve the organization of clinics, and provide support for hard-to-reach families (Barak et al., 2008). However, the professionals to whom this technology is being introduced have received it with mixed responses (Koivunen, Hätönen, & Välimäki, 2008). While the efficacy of web-based treatments has been established (Barak et al., 2008), research suggests there are many clinician-based barriers to the implementation of such technologies in practice (Nordfeldt, Ängarne-Lindberg, & Berterö, 2012; May et al., 2001).

Previous research has indicated that the amount of input that clinicians have into the development of new technology is a major factor in its uptake (Nordfeldt et al., 2012). Research into medical practitioners’ perceptions of using a web-based portal for young people with diabetes suggested most practitioners had positive perceptions of using the

portal with young people; however, it was important practitioners were actively involved in the development of such portals to assure their quality and efficacy (Nordfeldt, Ängarne-Lindberg, & Berterö, 2012). Perceived barriers to the use of this portal included technical problems, insufficient experience with computers, lack of commitment to using the portal, lack of computer access, and the disorganised appearance of the information on the portal.

An additional barrier to the implementation of web-based interventions is clinicians' concerns that technology will interfere with therapeutic practice. Clinicians in an adult community mental health team worried that telepsychiatry, involving a two-way video conversation on a computer, detracted from the spontaneity and naturalness of the therapeutic session, stopped human contact by introducing a screen between the therapist and client, and undermined the possibility of the therapeutic interaction (May et al., 2001). Despite initial enthusiasm, these clinicians found it difficult to incorporate telepsychiatry into their own practice and eventually rejected the new technology (May et al., 2001). It is clear from this research that clinicians' worries about technology interfering with their practice can hinder successful implementation of new technology.

Much work remains in developing web-based platforms for clinicians to use with young people, particularly those with mental health difficulties, and evaluating the importance of the role of clinicians in the development of such platforms. There is a paucity of

information in the current literature about the experience of mental health clinicians who are encouraged to use web-based platforms in regular practice with young people. Additionally, very little appears to be known about child and adolescent mental health service (CAMHS) clinicians' current attitudes about using technology such as web-based platforms in practice, and the barriers to their use of this technology. The following investigation of CAMHSweb aims to address this gap with information that can be used to inform the future development and implementation of web-based platforms in child mental healthcare.

### **Introduction to CAMHSweb**

CAMHSweb is an interactive web-based platform, initially developed in 2013 by the Evidence-Based Practice Unit (EBPU) and the Anna Freud National Centre for Children and Families (AFNCCF). This work was funded by a Department of Health grant. The EBPU is a collaboration between University College London (UCL) and the AFNCCF that aims to bridge the gap between research and practice in children's mental health, while ensuring that training, tools, and support are informed and improved by scientific evidence.

Researchers at the EBPU developed CAMHSweb with the intention of increasing collaborative practice and shared decision making (SDM) within child and adolescent mental healthcare. Increased SDM in young people's mental healthcare has been associated with better psychosocial outcomes (Edbrooke-Childs et al., 2015). Influential

government policy such as “Future in Mind” (Department of Health & NHS England, 2015) calls for children, young people and their families to be at the heart of decisions around their treatment, and suggests that services make use of digital technology to “fill in the gaps in a fragmented system” (p. 3). Developed with this research and policy in mind, CAMHSweb was created to improve care within therapeutic sessions with young people at mental health service locations across the United Kingdom.

Since 2015, CAMHSweb’s name has changed to “IncludeME,” and the updated platform is now available for out-of-session use. However, for the purposes of this study, the platform will be referred to by its former name, “CAMHSweb,” indicating that this was an earlier iteration of the platform.

CAMHSweb was introduced to CAMHS sites across the United Kingdom in several different waves. After initial contract signoff, representatives from the EBPU conducted a site visit at each clinic to see how clinicians and staff were reacting to the platform and to answer any questions. At this point, each site had a working group in place with a leader designated to facilitate the implementation of CAMHSweb in the clinic. The plan was for the working group to take over the implementation of the platform within the service.

When the current study was conducted (early 2015), CAMHSweb was available online for clinicians to log into with a unique username and password for each client. The homepage

of the platform included icons for bespoke, collaborative tools including “Doodle Draw,” “Feedback Bullseye,” and “My Relationships.” CAMHSweb was the first national child mental health platform that we are aware of that focused on joint use and relationship-building through technology.

As part of ongoing efforts to improve delivery and efficacy of digital tools for clinicians and young people, the creators of CAMHSweb were interested in how the platform was being used. Some site visits to clinics indicated low usage of the platform, and confusion around some crucial aspects such as where information about the platform could be located and who oversaw its implementation. An audit of the usage data also indicated that multiple sites, including the clinic selected for the present study, had not accessed the platform at all for use within clinical sessions (despite receiving site visits and support from the research unit implementing the platform). The researcher decided to perform further qualitative investigation within this clinic to determine the barriers to the implementation of the platform.

## **Method**

### **Participants**

This study was an interview-based, qualitative investigation set in a community-based child mental health clinic in a large, diverse borough of London. At the time this study was conducted, this National Health Service (NHS) outpatient clinic offered specialist services,

free of charge, to young people (aged 0-18) with mental health difficulties and their families. This clinic was selected based on a preliminary audit of the CAMHSweb usage data, which identified it as an example of a clinic that had not successfully implemented CAMHSweb in clinical practice.

The selected service joined the project at the beginning of 2014 in the first wave of the implementation of the CAMHSweb platform. Prior to the interviews in this study, the clinic had received three site visits from the creators of CAMHSweb, where informal training was provided. Although no formal training was given to the team, training videos were embedded in the platform itself. Guidance documents were emailed to site leads who were then asked to distribute them to all colleagues involved in the project. At this site, the CAMHSweb lead role had changed from the original lead to a new one between the second and third site visit.

Five clinicians and one non-clinician staff member (involved in the implementation of technology in the service) participated in this study. Clinicians comprised members of the same multidisciplinary team, and were selected using convenience and purposive sampling. Ethical approval was gained from the NHS Trust clinical audit department for this clinic. All 43 team members (staff and clinicians) in the selected clinic were invited through their work emails to participate in this study. No incentive was offered to participate. The final group included one trainee child psychotherapist, two consultant

psychiatrists, one primary mental health worker, one family therapist and one staff member, and consisted of four women and two men. The researcher purposely sampled participants who ranged from inexperienced (a trainee psychotherapist) to experienced (a psychiatrist in a clinical lead role). Participants' ages ranged from early 30s to late 50s.

### **Materials**

Semi-structured, in-person interviews were conducted with all participants. Interviews lasted between 10 and 20 minutes and were recorded using a Dictaphone. The researcher transcribed all the interviews.

In line with general principles for qualitative research interviews (Silverman, 1997), the interview structure was flexible, while the topics outlined were worked into the narrative of the interview when appropriate. The interview schedule covered staff members' exposure CAMHSweb (if they had accessed or had heard about the platform), their thoughts around using web-based platforms for therapeutic purposes, and their opinions about the feasibility of using tools on the CAMHSweb homepage in their practice. All interviewees were shown a printed list and accompanying description of the tools available on CAMHSweb.

## **Data analysis**

Braun and Clarke (2006)'s six phases of thematic analysis were used to investigate these data. Each transcript was read and re-read several times, and notes were recorded in the margins identifying potential themes and subthemes. The coding process was both inductive and data driven, as the researcher coded for all of the themes that appeared within the data. Therefore, multiple themes unrelated to the original research question were considered for analysis. The themes were reviewed by the primary researcher's supervisor. Final themes and subthemes were sent to participants, asking if they thought anything was not representative or clear. No alterations were necessary.

Analysis of these data has been presented from a critical realist position (Braun and Clarke, 2006). Weight is given to participants' constructed, essentialist "reality" of their experience, while broader societal influences on their perspectives are also considered, to holistically understand the possible barriers to the implementation of this platform.

## **Results**

Three overarching themes were identified in the analysis, covering the practical, the personal and the philosophical barriers to the implementation of CAMHSweb. In the following section, each theme is reported in turn, using illustrative quotations from participants. Within each theme, both convergent and divergent views are reported.

**Theme One: It is too challenging to implement new technology in the service (Practical).**

The most commonly mentioned difficulties regarding the implementation of CAMHSweb were practical in nature. Although most participants identified some positive aspects of CAMHSweb and saw potential for its usefulness, multiple staff members described the stressful nature of the introduction of new technology in the team. This was a defining factor in many participants' inability to engage with the platform. The prevalence of change and disruption of routine at this service was disturbing and distracting to many.

\*: I think there's just a lot of pressure... and for me this might feel like another fall of pressure. Just from the level of demand and complexity versus the level of resource. And things like change and uncertainty are pretty stressful for the team... So, yeah. [CAMHSweb] wouldn't be my top choice, if I'm honest.

Psychiatrist

Clinicians described the pressure of implementing often cumbersome technology into their practice and how CAMHSweb added to that pressure. Additionally, participants believed the service was ill-equipped to roll out the platform given current IT conditions.

\*: I think the principle is a good, in principle it is a good idea, um, I'm not overly convinced how ready we are to implement it...We can fly to the moon but we can't make two systems communicate together.

Primary Mental Health Worker

Fear that CAMHSweb might exacerbate difficult IT conditions resonated for many. Clinicians consistently voiced anxiety about inconvenient technology frequently being forced upon them.

Clinicians were strongly encouraged to complete and submit paper outcome measures before and after each clinical session with young people, which could be a time-consuming and frustrating process. Rather than seeing CAMHSweb as the ideal solution to this problem, participants believed it might require clinicians to spend more time at their computers.

R: We are kind of overloaded with feedback forms and papers and requirements, and we've also got RiO. We've got emails, we've got to do a calendar. It's a lot of sitting at the computer. And in some ways, it's very freeing to get away from that.

Family Therapist

In discussion of these practical barriers, a sub-theme around lack of clinicians' headspace to cope with the platform became evident. Participants expressed this by using terms like "freedom" and "overloaded," which implied they viewed new technology as burdensome or restrictive. These views were often accompanied by feelings of exasperation and frustration.

R: And practically, what would be difficult about rolling [CAMHSweb] out?

\*: Well, initially the lack of knowledge... the fact that we didn't know what it could do or could not do. And also, essentially, time constraints and the headspace of clinicians. If we were to turn around to clinicians at this point and say, "So we've got this new system that we'd like to roll out," clinicians are gonna go, "[loud sighing noise]."

Staff Member

Additionally, clinicians and staff members noted a general lack of readily available information about CAMHSweb; in part due to the departure of an employee at the service who had been involved in the early implementation of CAMHSweb within the service. However, multiple participants also mentioned how they were independently unable to find much information about CAMHSweb online (for example, from a Google search).

\*: So, there wasn't really, as far as I could easily access, a description of what the interface would look like...there wasn't really much description, I don't think, easily accessible about what it would really involve.

Psychiatrist

Finally, some clinicians and staff felt the onus was on them to find a way to implement the platform into their practice, although they felt unsure how to go about doing this. This could have been because the CAMHSweb site lead role had changed in the past year. Information and guidance documents about the platform guidance documents about the platform had been emailed to clinicians and staff; however, it was not guaranteed that staff accessed these documents. It is possible this lack of knowledge caused clinicians to be reluctant about using CAMHSweb. It was clear throughout the interview process that both staff and clinicians felt uncertain about some aspects of the platform; many not knowing where to find information about the platform nor who was currently in charge of its implementation.

**Theme Two: The platform is not an asset to therapists (Personal).**

Participants' personal opinions about the platform focused on the idea that CAMHSweb was not an asset to therapists. Several clinicians did not find the platform visually appealing, useful or exciting.

\*: Just the colours, the way it was designed, I just didn't like it. But that's, you know, that's personal. I didn't find it very useful.

Primary Mental Health Worker

This lack of enthusiasm seemed to deter many therapists from interacting with the platform. As clinicians could not identify a clear incentive to use the platform in their practice, it may have been more convenient to continue their usual practice.

Particularly evident was clinicians' view that some common therapeutic techniques were better suited to pencil and paper than computers; these included devising a shared plan, creating a genogram and drawing. Some participants believed that completing these activities on a screen would diminish the "working together" quality of the interaction.

\*: Obviously, online stuff is appealing to young people, so I should probably try to overcome that barrier. But for me, a pencil and paper and shared, you know, putting a plan down together and copying it and giving people copies, working on that together works just fine, actually.

Psychiatrist

Most clinicians believed the fun would be lost by reducing the tactile nature of drawing to a screen, and saw CAMHSweb as having the potential to dilute or damage this shared experience.

Some participants suggested the platform would be more useful for out-of-session use, where the young person could use the tools in his or her own time; this would not detract from the quality of the therapeutic work.

\*: So, yeah. I'm quite resistant to the idea of actually bringing this into a session where the child... that doesn't mean I think it's something I couldn't look at separately to the actual session, or even something that could be recommended for the child to look at away from the session.

Child Psychotherapist

Finally, apart from seeing the platform as visually unappealing, and better suited to use outside sessions, some participants had difficulty imagining themselves using the platform.

\*: I think it could be a really good thing to do, um, but personally I can't see myself, how I would use it in my practice... at all, really.

Child Psychotherapist

Not being able to hold the platform in mind as a useful therapeutic tool appeared to have been a major barrier to its use. As therapists were not able to imagine using the platform, they understandably did not attempt to use it in practice. This could have stemmed from a lack of readily available information about the platform, but it could also have been related to a misunderstanding between what the creators of the platform thought clinicians would find useful and what was useful in practice.

It is noteworthy that there were some dissenting views related to this theme. One participant mentioned that the “My Relationships” tool on the platform might be quite helpful to use within a session and that it mirrored the work they were already doing with young people.

\*: Okay so, “My Relationships,” I would use that, I would use that model anyway working with people in a session...so having something that you could use online in a session would be quite helpful, would make it quite accessible.

Psychiatrist

It was also suggested that use of the platform within sessions had the potential to mitigate the power imbalance between clinicians and young people. One psychiatrist suggested:

\*: Most people are going to find it hard to challenge that view or question it in a direct conversation, no matter how nicely I put it. Put it onto a website, put it in a sort of situation where actually somebody could look at that either in the session or out of the session, then you're in a different dynamic.

Psychiatrist

These dissenting views show clinicians acknowledged the clear personal advantages of incorporating the platform into their practice. However, most failed to see how or why they would want to use the platform in practice, and clinicians overwhelmingly preferred their current therapeutic techniques and tools to what was available digitally. The possible philosophical reasons behind this personal aversion to the platform will be discussed during the exploration of the final theme.

**Theme Three: The platform interferes with the therapeutic process (Philosophical).**

In addition to the practical and personal reasons, it became clear there were also philosophical concerns about accessing or using a web-based platform in practice, including; the impact that the use of screens might have on the therapeutic relationship.

\*: I'm very resistant to the idea of doing something on a screen. I would worry about technological breakdowns... I sound very stuffy and old-fashioned here, but I think a lot of the children I see spend enough of their time on screens anyway, and I think it needs to be very protected, that the clinical session is a non-screen time, actually... absorbing yourself in a screen is a bit of a sort of turning away from a relationship as well.

Child Psychotherapist

Given the importance most clinicians place on the therapeutic alliance, it is unsurprising that participants viewed the introduction of a screen as something that could detract from the quality of the face-to-face relationship, which could in turn harm the outcome of the therapeutic work.

\*: I think we need to, probably we'll have to think what website, and what is the purpose of it, and what impact it can have. It can have a positive

impact, but it could also have a lot of, you know, negative impact...especially in the relationship...

Primary Mental Health Worker

Importantly, for some participants, screens were prescriptive in a way that would distract from free play. For example, participants felt that child psychotherapy takes place in the “overlap” of the young person and therapist playing together. Therefore, free play, which is initiated and led by the child, was an integral part of the child psychotherapy process.

\*: It's a tricky one because as I was speaking about this, I feel like I'm being very prejudiced in a way, like, I'm sort of saying there is no way I would use any screen, computer-assisted thing in a child psychotherapy session. But I'm saying that prejudiced response because I feel that it's very necessary to keep away from that, to preserve the chance for free play. And without that, I don't think child psychotherapy can work.

Child Psychotherapist

Clinicians in child mental health services are encouraged to think reflectively about their practice and the impact of their practice on others, and this excerpt seems to demonstrate reflective thinking around the platform and the damaging impact it could

have on therapeutic work. This response differed from the more practical and personal reasons that participants named for not using the platform, as it showed critical thinking about the platform and concern about how new technology could negatively impact a particular therapeutic style.

The theory behind family therapy also appeared to be at odds with some aspects of CAMHSweb. A family therapist explained that the platform would be most useful to her if it had a way of passing information along to a family, which at the time of the study was not happening.

\*: The way I work is quite collaboratively. So, if we were to do something like this, it wouldn't be for me to keep, as much as it would be for us to share...family therapy is about working together. And it's not about me finding out what's going on. It's about together working out what's going on.

Family Therapist

This therapist worried that CAMHSweb, in its current configuration, might not fit well with the theory behind systemic family therapy. Difficulties were not seen as rooted within the child, but instead as a symptom of something awry within the family system of

relationships. As CAMHSweb was only suited to working with a child and not with families, it may not have been suited to family therapy in-session use.

The question of potential impact on the therapeutic relationship also arose in the context of the power imbalance between therapist and client. Participants found it very difficult to grapple with the schematised nature of CAMHSweb, which could suggest that the therapist, rather than the young person, knows best.

\*: What I'm saying is, coming with something prepared like [CAMHSweb], the same as when we come with our forms, I'm not sure if it feels to young people like they're the experts. It's almost like we're collecting information and we're going to make up our minds about what is going on with them.

Family Therapist

Participants expressed that the rigidity of online tools could interfere with flexibility and spontaneity; a prerequisite when working with children and adolescents. Participants thought the schematised, pre-prepared nature of the platform could create a depersonalized kind of therapy, detracting from therapists' individual therapeutic styles.

\*: I believe that if we haven't been able to develop a strong therapeutic alliance, or therapeutic relationship with a patient, without using any medium, [CAMHSweb] is not going to make any difference. It can actually make it worse, because it's kind of just depersonalized.

Primary Mental Health Worker

However, a dissenting view was that the highly-structured nature of the platform could be quite useful for children on the autism spectrum, who may favour a more organised approach.

\*: I think there's a group of patients it would suit quite well. In fact, I know from experience that that some of the children I see with higher functioning autism feel really comfortable with screens and with lists and with ticks and with checklists. For them I think it could really enhance practice.

Psychiatrist

Therefore, while many clinicians voiced opinions about the platform interfering with therapeutic process, there was a perceived usefulness of the platform for working with children with particularly schematised presentations such as Autism.

## **Discussion**

This study identified practical, personal and philosophical barriers to the implementation of web-based technology in a child mental health setting where the staff did not use the platform in clinical practice. Barriers of a practical nature were the most prevalent across the interviews, as participants voiced concerns about feeling uninformed about the platform, not having the headspace or resources to implement technology, and feeling unsupported, overloaded, or stressed by the introduction of new technology and uncertain about the changes the platform would bring. Batty et al. (2013) note that implementing outcome measures in child mental health services “presents a clear challenge in a time of austerity when many Trusts are undergoing considerable reorganization and financial cuts” (p. 87), and it is possible that the implementation of CAMHSweb could have also been affected by this period of uncertainty and change. For instance, the clinic in this study was undergoing a restructuring at the time the research was conducted, and many people expressed concerns about jobs being cut and losing funding. Coping with the uncertainty generated by this situation could have taken precedence over the implementation of new technology within the service.

The practical and personal findings of this study are consistent with previous research, which has identified the significance of practical barriers to implementing web-based interventions. For instance, (Nordfeldt et al., 2012) identified similar practical barriers to use of a web-based platform, including technical problems and an unappealing portal.

Similarly, practical barriers to web-based platforms have been identified in mental health nursing settings, including: lack of suitable rooms, computers and Wi-Fi; lack of staff resources, IT education and time; and lack of commitment to new action (Koivunen, Hätönen, & Välimäki, 2008). It is likely there are common practical barriers to the implementation of most web-based platforms in clinical practice regardless of patient group and professional denomination, and they should be accounted for when considering the implementation of new technology into any health setting. This could be particularly useful for practitioners attempting to research, develop or implement web-based platforms as part of their own work and who may be struggling to do so.

When considering personal barriers, participants reported that they did not find the platform useful, appealing or exciting. Interestingly, none of the participants mentioned that the platform looked difficult to use or cited their own hesitance to use IT, which could have explained some of this reluctance. Instead, clinicians insisted the platform did not appear intrinsically useful, to their personal practice. This is consistent with research into health information websites that suggests that users place more importance on “usefulness” of website content rather than “ease of use” (Kim & Chang, 2007).

Regarding the philosophical or conceptual barriers, previous research has suggested that implementation of new technology in mental healthcare can bring up unexpected interferences with the therapeutic process. This can particularly be the case when a new

technology is intended to facilitate the work of clinicians and appears to do so at first; for instance, the case of telepsychiatry where clinicians believed it detracted from the spontaneity and naturalness of the therapeutic session, stopped human contact by introducing a screen between the therapist and client, and undermined the possibility of the therapeutic interaction (May et al., 2001).

The present research replicated the findings of May et al. (2001), as clinicians suggested the CAMHSweb platform was too schematised and depersonalised, that it detracted from the spontaneity of the session, and that it could potentially harm the therapeutic alliance. What was most worrying to interviewees was not that CAMHSweb was technically limited or dysfunctional, but that it had the potential to deeply interfere with their personal style of therapy and way of relating to patients by the introduction of a screen into the therapeutic environment.

## **Conclusion**

To our knowledge, this is first study focusing on the unsuccessful implementation of a web-based platform in a child mental health clinic. Despite being developed to improve practice, multiple barriers impeded the platform's uptake among staff at the clinic. The findings of practical, personal and philosophical barriers to the implementation process may be useful to practitioners or researchers involved in the design, development or implementation of web-based platforms. By increasing awareness of the potential barriers

to the implementation of web-based platforms, we hope to alert others to the potential pitfalls and difficulties when attempting to design and implement similar technology.

The sample size of this study (n=6) was small and cannot be considered to represent the whole of child mental health services or to represent those services that did use the platform. Further research into the implementation of web-based platforms in child and young people's mental health services is necessary to determine the transferability of these findings.

Web-based resources like the CAMHSweb platform feature increasingly within child mental health services, and these tools have the potential to improve the quality of clinicians' work. However, this technology is costly to develop and draws on precious staffing resources, so it is important to ensure it is developed and introduced in a way that maximises the chances of it being used successfully. Understanding the barriers to implementation helps to identify potential risks, and offers the opportunity to develop better models of implementation that consider potential barriers.

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CAMHSweb (now called “IncludeME”) at the Evidence Based Practice Unit. Rebecca Tempest was also involved with this project before moving to a new role at NHS England. The study’s original data are fully accessible to the authors who take responsibility for the integrity of the data and accuracy of data analysis.

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