Co-design of Moderator Training: Integrating Knowledge from Forum Moderators, Users and Researchers with the Improving Peer Online Forums (iPOF) Project

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Abstract

Introduction

Moderators of online mental health forums often experience stress and burnout. There is large variety in the training available for moderators at different forums. This study aimed to co-design a training resource available for all moderators of mental health forums, using an Integrated Knowledge Translation (IKT) approach. Forum moderators, users, and public advisors ("knowledge users") and researchers, academics and a technologist ("researchers") worked together to create a training resource for forum moderators working in clinical, peer support, and volunteer roles.

Methods

The co-design process involved 22 knowledge users and 12 researchers who worked together in 22 2hour sessions over 2 years. The process followed four phases: group formation, identifying training priorities, content development, and finalisation. The group mainly collaborated through Zoom sessions facilitated by 2 independent facilitators.

<u>Results</u>

The final training resource included 10 topics, 8 animations, self-reflection questions, and a multiplechoice quiz. Feedback from the knowledge user group indicated they felt valued in the co-design process, although some felt that meeting format became repetitive. Key adjustments made to the training based on discussions in the co-design sessions included separating two topics, keeping training inclusive of all moderator roles, and enhancing resource accessibility.

Discussion

The project successfully navigated common barriers in IKT, including accommodating different participant needs and the challenges of online collaboration. Flexible communication methods supported group engagement, which was retained over 2 years. Groups members also appreciated a clear payment structure for their contributions. Implementing the training in practice remains an area for future work.

Keywords

Co-design; moderation; forums; mental health; online support; peer support; online community

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1. Introduction

1.1 Peer forums for mental health

Online forums can be beneficial for people struggling with their mental health as they are usually anonymous, and available quickly, at any time and any location with internet access (Prescott et al., 2019). This is in contrast with the provision in other mental health services, often characterised by limited support choice, significant waiting lists and limited appointment availability on weekends or outside working hours (Michaud et al., 2020). There may also be potential risks for users and moderators of such forums, but to date there has been limited research (Lobban et al., 2020; Smith-Merry et al., 2019) to understand the impacts of online forums for mental health support, and how these may differ for different types of people. In response to this, the National Institute of Health Research (NIHR) funded a realist informed evaluation project aimed at Improving Peer Online Forums: the iPOF project. (Lobban et al., 2023). The iPOF project used multiple methods to understand how online forums work for different people in different circumstances. This paper reports on one stream of the iPOF project: the co-design of a training resource to support online forum moderators, informed by the experiences of forum users, moderators, public advisors as well as researchers and academics across multiple disciplines.

1.2 Rationale for developing training to support moderators

A review from the wider iPOF project (Marshall et al., 2024) found that moderators play a vital role for users to feel safe and supported on mental health forums. Moderators are often responsible for maintaining a friendly, welcoming atmosphere; providing timely empathic and personalised responses to posts; enforcing consistent rules for forum behaviour and managing potentially distressing material on the forum. Another review from iPOF searched academic literature on forum moderator wellbeing, reviewed existing training materials, and interviewed moderators to understand moderator needs as well as actionable recommendations for support (Robinson et al., 2024). The moderator role can be rewarding but challenging, with high emotional labour and stress reported (Steiger et al., 2021) by both employed clinical moderators working at large companies (Deng et al., 2023) and volunteer moderators working independently (Dosono & Semaan, 2019), potentially leading to burnout and disengagement. Some recommendations from the review were that training and reflective practice, along with support from the forum organisation and peer moderators, are crucial to increase moderator competence and satisfaction. Similarly, another recent study into the wellbeing of online mental health content moderators found that access to refresher training is important to support moderators (Rathbone et al., 2024).

However, the training to prepare and support moderators varies greatly across different forum and organisation types. While some moderators work in a paid role in a company, charity or NHS setting, with colleagues, supervision and ongoing training, other moderators work as individual volunteers with limited access to any training or wider support network. Some moderators may be clinically trained with a background in counselling or psychology, while others moderate based on their own lived experiences, without specific mental health training. Despite these differences, the moderator role universally requires specific skills in how to manage conflict online, identifying risk in users, and self-care. There is therefore a need for freely accessible training resources available for all moderators to support them in this vital but challenging role (Robinson et al., 2024).

1.3 The importance of co-design

In response to this need, the co-design work described here focused on the development of a training resource for moderators, informed by the ongoing work of the wider iPOF project, as well as

the perspectives of forum users and moderators. The co-design approach is crucial to produce a training resource which is acceptable, meaningful and useful to forum moderators. The value of such a partnership approach is widely recognised in research and national service development policy (NHS, 2019; Skivington et al., 2021), and co-design approaches can work well with developing peer support related tools and interventions including face to face and online support groups (Haines et al., 2019; O'Donnell et al., 2024). A systematic approach to co-design adopted for this project is integrated knowledge translation (IKT).

In IKT, researchers work in equal partnership with people who will use the research outputs, such as policymakers or practitioners, or in this case, forum moderators and users (termed "knowledge users"). By using a continuous feedback loop between researchers and knowledge users, the team can co-design practical and useful innovations in healthcare designed to have real world impact (Gagliardi et al., 2017; Kothari et al., 2017). Developing a training resource that is relevant across a wide range of online mental health forums is a complex challenge. Such a challenge requires complex solutions, involving input from individuals with different perspectives on online forums, and an iterative process to form a solution. As such, the IKT approach involves ongoing interactions among knowledge users and researchers throughout the co-design process (Gagliardi et al., 2016; Oborn et al., 2013).

A common criticism relating to co-design and public involvement is that the processes involved are not well documented and shared (Puts et al., 2017). Many studies report that they have engaged stakeholders, but the specific details on what was involved are often omitted (Slattery et al., 2020). The lack of clear reports of the co-design process makes it challenging for other researchers to organise co-design activities or the evaluate the extensiveness of these processes in related studies. Therefore, this paper aimed to describe in detail, using an IKT framework, each step of the co-design process and summarises the key features of the training resource produced. The IKT approach enabled us to combine both the ongoing findings from the research project with the experiences and insights of the knowledge user group, to produce a training resource aiming to help moderators develop their skills and reflect on and improve their practice.

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2. Material and methods

2.1 Study Design

The study adopted an integrated knowledge translation (IKT) informed approach to co-design a training resource for mental health forum moderators. It was conducted as part of the wider iPOF project. This study received ethical approval from Solihull Research Ethics Committee on 20 June 2022 (IRAS314029).

2.2 Materials and Resources

All engagement occurred online, through Zoom video calls, email, and a dedicated forum space hosted by Lancaster University on the online learning platform Moodle (termed the community of

practice). Initially, Jiscmail was trialled as the platform for the community of practice, but participants found the email format impersonal. Moodle was chosen instead as a place where all conversations could be viewed and saved in one place. Guidance on account creation was shared with all participants over email.

The Zoom sessions were not recorded, but field notes were taken by the research team. During sessions, participants also made notes on a virtual interactive whiteboard (Google Jamboard), as well as comments in the Zoom text chat, which were saved by the research team in a secure OneDrive folder.

The moderator training was created using Xerte (Ball & Tenney, 2008), an online platform for developing educational content. Animations were developed using Powtoon (www.powtoon.com), a web-based animation software, as well as by an independent artist.

2.3 Participants and Recruitment

The co-design group included a researcher group (with clinical and research staff working on the iPOF project at Lancaster University and Berkshire NHS Foundation Trust, and a knowledge user group (with forum users, moderators, and members of the public). To recruit moderators and users to the knowledge user group, the research team asked seven UK-based mental health forums partnering on the iPOF project, to share the invitation with their moderators and users. Some participants had used and moderated a large variety of forums previously, so their input to the project was not limited to the seven forums involved with iPOF, whereas others had used or moderated one forum. Public advisors were recruited through sharing advertisements with research-interest groups, such as the UK's Clinical Research Network. The knowledge user group consented to participate though an online form hosted on Qualtrics. The research group were not required to provide consent as their involvement was part of their agreed roles on the iPOF project.

The knowledge user group included 22 people by the end of the project. Recruitment continued to ensure stable attendance numbers throughout the project. A median of 9 knowledge-users attended each session, with a range of 6 to 14. Most of the group identified as female (n=19, 83%), while 4 (17%) identified as male. There were a range of ages, with 9% (n=2) aged 16-25; 35% (n=8) aged 26-35; 22% (n=5) aged 36-45, 30% (n=7) aged 46-55, and 4% (n=1) aged 56-65. A majority of the group identified as White/White British (n=16 70%), while 17% (n=4) identified as Asian/Asian British, 4% (n=1) identified as mixed and 9% (n=2) preferred not to say. The knowledge user group were reimbursed with £50 each for their time at each 2-hour workshop, as per NIHR guidance (NIHR, 2022).

The research group included 12 people. There was a core research group (n=6) who attended most co-design sessions, shared updates via the community of practise and email, and met with the facilitators weekly to plan sessions. The other 6 members of the research group included academics and researchers from the wider iPOF project who led topics, as well as a PhD student and researchers who joined and left the university during the process. A median of 6 researchers attended the sessions, with a range of 2 to 7. Figure 1 shows the number of knowledge users and researchers (split by being in the core or wider group) at each session. It also shows the number of knowledge users who had been recruited during the study, as this was an ongoing process.

The group meetings were facilitated by KM, a lived experience researcher independent of Lancaster University and GC, an independent artist who specialises in workshops and collaborative design.

Table 1 shows the various roles and experiences that people brought to the co-design group.

	Table 1: Roles of co-design group members	
	Individual's Role	Ν
	Paid moderator in charity-run forum	8
sers	Paid moderator in company-run forum	2
n ag	Paid moderator in NHS-run forum	2
knowledge users	Volunteer moderator of self-made forum	1
Knov	User of NHS-run forum	4
	Public advisor	5
	Mental health researcher	2
S:	Academic clinical psychologist	1
cher	Learning technologist	1
Researchers: core	Senior manager of NHS-run forum	1
Rese core	Service user researcher	1
	Academic clinical psychologist	1
p S:	Mental health researcher	2
cher grou	PhD Student	1
Researchers: wider group	Professor of Linguistics	1
Res	Service user researcher	1
itors	Independent facilitator	1
Facilitators	Independent facilitator and artist	1

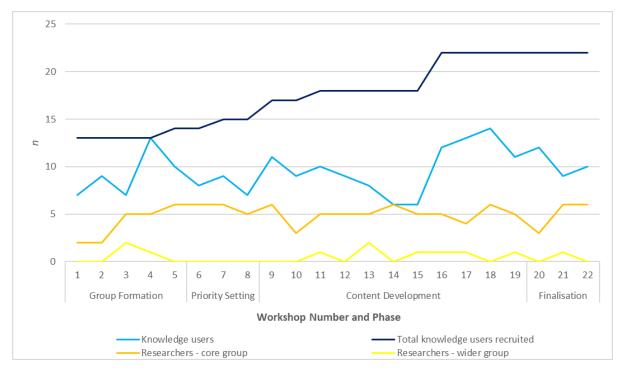


Figure 1 Workshop attendance and the recruitment total over 22 sessions

2.4 Procedures - Co-design Methods

From July 2022 to October 2024, the co-design group met 22 times over Zoom. Each session was two hours long with a 10-minute break halfway through. Sessions occurred monthly, in the same slot each month and with the same link to join. The agenda for each session was co-designed with the group to include presentations on specific topics from members of the wider IPOF research team with expertise in areas that the group felt were important in relation to developing the training. Researchers also shared information with the group on research from the wider literature potentially relevant to the development of the training. Knowledge experts considered this and their lived experience in helping to finalise these topics. Often, participants made posts to the Community of Practice after each session with some further reflections.

Meetings usually involved the research team presenting their progress and asking specific questions about the training, which the knowledge user group discussed in breakout rooms before feeding back to the wider group. Although this was the most common format, some sessions involved time for personal reflection instead of breakout rooms, as well as open discussions between the whole group. Information from each meeting was collected in several ways. Researchers kept notes of key points raised, saved chats from the meetings were reviewed and summarised by a researcher, and notes created by the whole group on Google JamBoard were collected. This information was reviewed by an operational group of researchers and CD group facilitators that meet weekly. Actions based on this information were identified and confirmed with the co-design group through the community of practice.

Outside of the monthly sessions, the co-design group could share posts on the community of practice. The research team and facilitators created accounts for the community of practice, as well as 14 knowledge users. Usage levels varied across the members, with a small number creating most of the content. Contributions to the community can be categorised as "posts", which start a new forum thread, and "replies" which continue an existing thread. Three research team members created 23 new post threads, which were mostly requests for feedback on specific aspects of the

training, or sharing information for the Zoom sessions. Two knowledge users created 40 new post threads, with one person creating the majority, 39. These included sharing resources for moderators, as well as stories and reflections on their role as a moderator. Replying to existing threads was more common – 10 knowledge users and 7 researchers replied to existing posts at least once.

As well as sharing information on the community of practice, the research team emailed details and information for each session a week in advance, meaning the group could review the content and raise questions over email as well.

Between the monthly sessions, the core research group and facilitators met weekly to review learning from each session, implement the changes suggested by the group, and plan the content for review at the next co-design meeting.

Co-designing the moderator training followed 4 main phases, which are shown in Figure 2 and described in detail below.

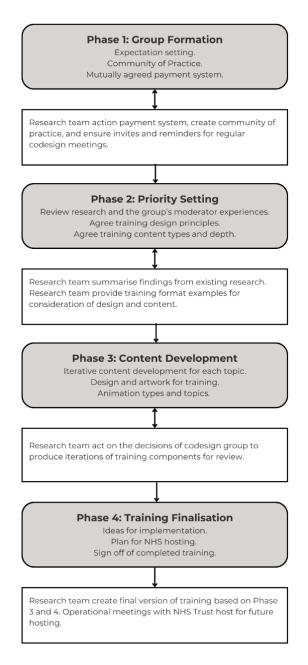


Figure 2: Phases of the co-design process.

1. Group formation

Early meetings were about group formation, building relationships and setting expectations around the dates and times of future meetings. A method of sharing information in advance of the sessions was agreed. An efficient payment system was developed with the knowledge user group set up for bank transfer payment. Different platforms were trialled for the community of practice, after which Moodle was finally selected. Time was allowed for group members, including the research team, to introduce themselves to each other and learn about each other's forums and moderation roles. This proved the wide variety of moderator experiences in the group.

2. Priorities for moderator training

Existing moderator training materials were shared and presented in the group. The target audience and goals of the training were discussed. A proposed structure, consisting of 10 topics, was

suggested by the research group, based on the discussions with the whole co-design group. The title and proposed content of each topic were reviewed by the whole group to develop agreement on the 10 topics. Different examples of the online platform were also presented and discussed. It was decided that each topic should take around 15 minutes to complete and include written content, an animation, and a quiz question to maximise engagement and acceptability for moderators.

3. Content development

The proposed titles of the training topics were matched with topics leads, who were members of the research team who had relevant experience as moderators or academic expertise in the area. The topic leads attended the co-design sessions twice. Firstly, they attended to present and discuss their initial ideas. The first meeting allowed the whole group of knowledge users and researchers to openly explore the topic, reflect on potential content, and refine the topic lead's idea. At the second meeting, the topic leads presented their developed content based on the discussions and suggestions raised in the first meeting. The second meeting provided an opportunity for the group to discuss the topic further and provide specific feedback if requested. The group could also review how the initial feedback and ideas had been incorporated. The topic lead then further edited the content before sharing the finalised version with the learning technologist to add to the online platform (in phase 4). Outside of the sessions, the community of practice also provided a space for group members to reflect on the content in their own time and allowed group members to discuss the content even if they missed the sessions.

A member of the research team (ZG) also developed animations using Powtoon. The animations were shared on the community of practice for feedback and were then iterated. Two topic leads also had conversations with an independent artist, who then created animations for the training based on the conversations.

4. Training finalisation

After the content was finalised, the learning technologist (SP) added content to the online platform, Xerte. Topic leads then developed a quiz based on their topic. This quiz consisted of multiple-choice questions. The quiz questions were reviewed and refinements suggested by the whole co-design group.

After animations were finalised, a member of the research team (JH) recorded voiceovers, and these were added to the online training platform. As content was added, an artist created illustrations for the online platform. How to share the training and the work of the group was discussed.

2.5 Evaluation

2.5.1 Poster

During the penultimate session, the co-design group, including both knowledge users and researchers, were asked to provide feedback on the co-design process. The feedback was drawn live by facilitator and artist GC. The poster was aimed to be a more accessible way to share the co-design group's experiences, rather than through text-based reports or presentations. Throughout the sessions, the group often discussed the value of using different mediums to present information, as some people engage with visual or auditory materials better than written. Therefore, it was apt to develop a graphic output collating the group's feedback. The poster was then shared with the wider research team and iPOF collaborators at the study's closing event.

The knowledge user group were invited over email to complete a short anonymous survey. The survey was hosted on Qualtrics. The survey had two questions with free text responses:

- a) Please describe your experience of taking part in the iPOF co-design group. You are welcome to include both positive and negative experiences.
- b) Please provide any suggestions you have for how we could improve the experience of taking part in future co-design projects.

3. <u>Results</u>

3.1 Co-design Process

Table 2 illustrates the key activities of the co-design group during each phase of the process. This table provides a concise description of the key inputs and actions during the process, which arose from extensive whole group discussions. A list of the key discussion topics and outcomes for each of the 22 co-design meetings is presented in Appendix A.

Table 2: Key Inputs & Actions in Co-design Process			
Phase	Knowledge User Group Input	Research Team Action	
1. Group Formation	Prefer to be reimbursed with bank transfer rather than with vouchers. Receiving vouchers feels like experience is undervalued.	Organised a bank transfer payment system with the study's NHS host. After initial set up, payments were processed automatically by the research team to reduce administrative burden on participants.	
	Information to review and agenda should be sent in advance of sessions so the group can prepare.	Shared session reminder, agenda and documents to review in the week prior to the session.	
	Community of practice needs to be accessible for all. Email chain did not feel like a community space; would prefer a group chat or forum.	Initially started a JiscMail email group. After further feedback, the research team set up an online forum on Moodle for the co-design group to keep in touch between sessions.	
2. Priorities for Moderator Training	The initial iPOF findings were not applicable to all moderators. For example, the research team proposed the importance of "clinical supervision", but there were group members who did not work for a clinical organisation and had no clinical supervision. The training needs to account for this or have a more specific target audience.	Decided the training needed to be broad enough for moderators in different contexts, such as being a volunteer or employed, or moderating based on lived experience or clinical experience. This target audience was communicated to topic leads.	
	Discussed the specific challenges of moderators, such as setting time boundaries while working online,	These were noted and incorporated into the proposed topic areas.	

	1 IC	
	and practising self-care especially	
	while coping with risk-related issues.	
	Through a consensus decision	Research team members
	making exercise, where each	assigned as "topic leads" for
	proposed topic was discussed, the	each of the 10 topic areas.
	group agreed on the 10 topic areas.	<i>"</i>
	The single topic "Managing risk and	"Managing Risk" and
	challenging situations" was	"Managing Challenging
	suggested by the group as needing	Situations" were separated.
	to be two separate topics.	
	Important features to make the	Ensured that the platform
	training easier and more accessible	template selected on Xerte
	to navigate were a progress bar,	included a progress bar and a
	menu button and high contrast text.	menu page. Text colours were
		selected to be high contrast.
		Platform was compliant with
		the web content accessibility
		guidelines (WCAG2.1).
3 Content Development	Moderators from different forums	Included a glossary to cover
	use different language to describe	common terms. The co-design
	their work. For example, "forums",	group added words and
	"walls", and "communities" might be	abbreviations to the
	used interchangeably. Training	community of practice to
	needs to be clear about what the	include in the glossary.
	language refers to.	<i>.</i> ,
	For the first session on each topic,	The group's ideas were
	the group suggested further ideas	included in each topic by the
	for content to add to different	topic leads.
	topics. For example, in "Encouraging	•
	Activity", approaches such as using	
	friendly language, using humour,	
	and sharing own experience were	
	suggested.	
	The self-reflection exercise for the	Exercise was changed to
	Empathy topic was too abstract to	reviewing an Al-generated
	think about. The exercise was	response and reflect on what
	initially: "Think about a time when	made it empathetic or not.
	someone needed empathy".	
	The training should have some	Placeholders were included for
	colour but not too much to be	images, which were later
	distracting, and include pictures.	replaced by illustrations
	There should be less text, using	created for the training. Text
	bullet points instead.	was edited into bullet point
		formats or slideshows rather
		than paragraphs.
	The word "module" sounded too	Changed the word from
	academic, and the word "topic" was	"module" to "topic".
	preferred.	module to topic.
	The bullet point lists in Encouraging	"10 tips for encouraging
	Activity topic could be animated, as	activity" was animated using
		Powtoon. The self-reflection
	well as the self-reflection questions	

	or self-care strategies for moderators.	questions in the ongoing learning topic were animated. "Support for moderators" was animated, including a section on self-care.
	The topic on Empathy would be more engaging as a presentation rather than text.	The topic lead recorded their presentation as a video which was embedded in the training.
	The "moderator support" section should emphasise how important it is for moderators to practise self- care, but also highlight that forum organisations need to support this.	Included self-care strategies suggested by the group, such as taking regular breaks, and highlighted the importance of peer support and backing from organisation.
	Quiz should have multiple choice questions so the training user can test their knowledge, which is especially useful for people with English as a second language. However, there should be opportunities for self-reflection throughout the topics.	Included a multiple choice quiz at the end of the training with opportunity to print results. Also included self-reflection questions with free text entry boxes at the end of each topic.
	Would prefer research group to draft the quiz, and then the knowledge user group to test it (rather than the knowledge user group developing the quiz questions).	Topic leads proposed quiz questions which were then tested by the group and refined by removing multiple responses and including different formats.
	Animations should include both male and female presenting avatars. The faceless avatars appear impersonal.	Both male and female presenting avatars were included in the animations, and avatars were given facial expressions.
4 Training Finalisation	Animations should not have music so that a voiceover is more easily understood, especially for people with English as second language.	Music was not included in the animations, and all voiceovers were also captioned to increase accessibility
	On the online training platform, the arrow buttons and which text is clickable needs to be clearer. The titles should have colour.	Included instructions on navigation and accessibility at beginning of training. All clickable text is highlighted in bold. Colour was added to the titles.
	Training package should be accessible for all moderators and could be advertised in moderator groups (such as Facebook or Discord). Forum hosts could also use or adapt the training for their specific forums.	Ongoing discussions between the research team and the NHS Trust that will host the training, over where and how it will be accessed.

3.2 The Finalised Training

The finished training has 10 topics: Overview, The Moderator Role, Moderator Support, Mental Health on Online Forums, Expressing Empathy Through Language, Managing Risk, Managing Challenging Situations, Encouraging Activity, Ongoing Learning, and Course Summary. As well as this, there is a "Welcome" section with instructions on how to use the training, and a "Quiz and Final Self-Reflection" section at the end.

The course has a title page, shown in Figure 3. The elements of the title artwork each represent the topics of the training. Each topic has a title page which includes its logo from the main title artwork; the title page for "Moderator Support" is shown in Figure 4. Each topic includes content for the user to read or watch and questions to encourage self-reflection. An example page is shown in Figure 5. The quiz is a multiple-choice quiz which covers content from all the topics.



Figure 3: Moderator training title page.



Figure 4: An example title page from the Moderator Support topic.

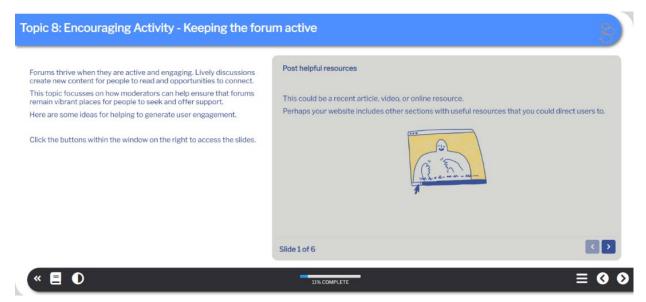


Figure 5 An example page from the Encouraging Activity topic.

The training will be freely accessible and hosted by Berkshire NHS Trust. While this is being set up, readers interested in accessing the training are encouraged to contact the corresponding author. People interested in the training are requested to complete a short questionnaire, after which they are automatically emailed a link to the training. After one week, they are automatically emailed with a link to a feedback questionnaire. This process was set up so that rates of access to the training can be monitored and feedback collected.

3.3 Evaluation of process

3.3.1 Poster

The poster drawn by GC while the group each provided feedback is displayed in Figure 6. Nine knowledge users and seven research group members were present at the session. The feedback

shared indicated that people felt genuinely involved in the project, working together to create a jointly agreed output. Group members also valued how the groups were organised and facilitated in an inclusive way which respected their contributions and that these were reflected in the development of the training.



Figure 6: Poster of co-design group's feedback on the process.

3.4.2 Questionnaire Feedback

Five responses were received for the free-text questionnaire. Overall, the feedback from the codesign group highlighted the friendly and supportive nature of the facilitators, and the kind and inclusive atmosphere of the sessions, which helped participants feel more at ease and motivated. Group members reported that they felt their feedback throughout the moderator training co-design process had been acknowledged and integrated. The co-design sessions were also seen as a good opportunity to meet others in similar roles, as well as learn from a diverse range of researchers. Some excerpts illustrating these points are included below, and the full responses are included in Appendix B.

"I found the meetings I joined very helpful - it was always very clear in what was being asked of us, with a good mix of updates, breakout sessions and wider discussion to provide our comments and feedback. It was good to see at subsequent sessions that feedback had been incorporated - it has never felt like a 'tick box exercise', it has felt like our contributions have been very valued. People have been able to contribute in different ways, some remaining anonymous, and this has always felt accepted and all feedback appreciated." "The two main group facilitators were friendly, supportive and engaging. This was helpful in being motivated to continue with the process when it felt otherwise difficult and to feel more at ease within the sessions. It was good to have exposure to a mixture of facilitators as well as researchers and other people from different levels, layers and backgrounds as it provides a broader learning and social experience. It was also good to have a variety of different challenges/things to do such as looking at visual presentations, breakout rooms, listening to people presenting ideas etc as it offers a structure but whilst also having variety within it."

The responses also highlighted some challenges during the process. One was that the use of online breakout rooms was felt to become monotonous and that the co-design sessions could have benefited from more variety in their structure, or more whole group discussions. There was also a sense that the research team could have provided more time for introductions at each session, especially for people who joined the group part way through the process. Some of the content was not relevant for all group members, as some were forum users rather than moderators. Finally, some group members found it challenging to speak in the online groups, although they appreciated the option to communicate through the chat. Some excerpts illustrating these points are included below.

"I picked up that some people who were there as forum users rather than moderators didn't always feel everything was as relevant to them."

"There were a few minor negative experiences which felt like setbacks based on the same issue which is me not having very good verbal communication skills but trying to improve them in an environment that might not be expecting to come across someone who has that type of degree or issue with verbal communication."

"The only part that was difficult at times was the frequent break out rooms as no one really wanted to engage with each other or were quite lost on the questions we were meant to be discussing. I think as there were so many during each meet up, everyone was a bit burnt out from them by the end. I felt it always worked better when we were in the main group together discussing ideas and bouncing off each other. That was a better experience for us all I think."

"It sometimes felt a bit disconcerting that some people had their cameras off the whole time, especially when in the smaller breakout groups, but I appreciate the reasons for this and it was positive that the process was so inclusive. Similarly, unless people offered to share who they were / where they came from, it sometimes felt a bit odd that we didn't really know each other. There may have been introductions earlier in the process, or it may have always been intended to be quite anonymous - maybe a bit of explanation around this for new people joining the group."

4. Discussion

This paper describes the co-design of a training platform for moderators of online forums. A common criticism of co-design is that the specific details of the processes involved are often omitted from reports (Puts et al., 2017; Slattery et al., 2020). This paper has described in detail, using an IKT framework, each step of the co-design process. Through this project, people from a range of different relevant backgrounds worked together over four phases to create, review and iterate the training content. The complexity of the moderator role – shaped by various professional and personal experiences - required a flexible, inclusive approach to ensure the training was relevant to all participants. Forum moderators, users, and researchers highlighted the need for a training package that is broad in scope and adaptable for a range of contexts. To address these needs, the final training resource includes 10 topics, 8 animations, self-reflection questions, accompanying artwork, and a multiple-choice quiz.

Previous research (Gagliardi et al., 2015) identified common barriers to IKT, many of which were successfully addressed during the current project. These included differing needs and priorities among participants, a lack of funding infrastructure for IKT, and little continuity of involvement due to staff turnover. Regarding the first point, the sense of moderators' differing needs and priorities became apparent when moderators discussed how varied their roles were. Furthermore, the language used differed between forums (or "walls" or "communities", for example). These differences highlighted the need for a training package that could accommodate a wide range of moderators, including a glossary for key terms. This was communicated to the topic leads, and throughout the process the training content was iterated to be as broad and inclusive as possible.

Regarding the second point, standard funding infrastructure to reimburse co-design group participants was to reimburse participants with vouchers in line with university policy. However, co-design group members did not feel their inputs would be appropriately valued through vouchers. Consistent with this, research with public involvement experts has highlighted that payments need to be non-tokenistic, and that teams need to build positive relationships with participants to address emerging issues and work to overcome institutional barriers including with respect to payments (Richards et al., 2022; Snape et al., 2014). In response to this, the research team instead organised payments through the lead NHS Trust co-hosting the wider iPOF project, who could process payments as bank transfers. This enabled participants to choose an appropriate method of compensation, which likely helped to retain participants over the project's two-year lifespan. Although all participants opted for payment via bank transfer, it is still important to offer payment via voucher as an option because potential restrictions based on an individual's welfare benefits could itself become a barrier to research involvement (Roca & Bates, 2014).

Finally, some lack of continuity identified in previous research (Gagliardi et al., 2015) was also experienced in this project because of turnover in the co-design group. Research staff turnover meant that some training topics had to be adjusted, and some research team members needed to take on more topics than planned. Flexibility in the plan allowed the remaining research team members more time to work on their topics before sharing them for feedback in the co-design group sessions. Future work could gather more feedback from the researcher participants in IKT, rather than only the knowledge user group, to understand how to improve the process. Turnover in the codesign group was mitigated by continuing recruitment to the knowledge user group, although it led to some newer members missing the introduction phase. Working together online can be challenging (Medeiros et al., 2022) because it restricts the time and opportunity to build personal relationships, which are key to the success of co-design groups (Dunn et al., 2023). While the group facilitators included set time in early sessions for all participants to get to know each other, participants who joined later in the project missed this opportunity. The research team and group facilitators could have provided ongoing opportunities for introductions and relationship building at each co-design session, although. Although there was a challenge in balancing the need to meet fixed deadlines of an externally funded project with offering sensitive and ongoing support for members of the co-design team. Some participants also reflected in the survey that the use of breakout rooms became tedious towards the end of the project, while others appreciated the predictability of the format. A greater variety of meeting structures, such as more whole-group discussions or time for independent reflection, could have been proposed and discussed.

There were also some barriers and enablers unique to this group. The anonymous and asynchronous nature of many online forums means that users or moderators may be hesitant to be involved with a research project where identifying information such as organisational affiliation is shared, and where participants are expected to contribute to live online sessions. Providing organisational affiliation led

some participants feeling they could not speak openly during the sessions, for fear of their comments being reported to their employer. The challenges of collaborating with people in a range of positions within forum organisations are explored further below. The challenge of contributing to live online sessions was reflected in the survey feedback, where one participant commented on "not having very good verbal communication skills". However, the flexibility of our approach enabled participants to engage with the project in different ways. During the sessions, participants were welcome to use text chat, to post anonymously to an online whiteboard, and to keep their cameras on or off. Outside of the sessions, participants could also contribute further via the community of practice, through emails, or through feedback surveys. This flexibility enabled real-time feedback on the project, without the constraints of any group or time pressure. Indeed, a recent review of IKT (Dunn et al., 2023) highlights that teams need to use a variety of communication strategies, but also be aware of information overload, to keep partners connected and engaged but not burdened. In this case, monthly sessions with the opportunity to feedback in between was well received by the group.

How to engage with authority figures in different forums to share the training and evaluate its impact remains an ongoing challenge. Moderators in the group could implement learnings from the project in their own practice, as shown in the poster's feedback: "This project also helped me" and "I've taken my learning out to the rest of my network". However, discussions in phase 4 indicated that codesign group members felt they did not have the power to share or host the training on a wider scale; some in commercial or charity forums suggested that the training would need backing from people at higher levels in their organisation. The recruitment for the knowledge user group focused on moderators and users, rather than authority figures who might have the power to implement the training - an approach typically recommended in IKT. Authority figures were instead invited to separate meetings as part of the wider iPOF project, which included discussions on how to share the training. The separation of these groups was intended to allow moderators to freely discuss the challenges of moderation, which could be tied to the forum organisation and management itself. Despite this, one participant reflected that they felt they had to generalise comments and not mention specific issues around training and staff wellbeing due to the fear of it being used against them by their forum employer at the time. Consistent with this, recent research has highlighted the imbalanced power dynamic and relational challenges between forums' community moderators and the administrators of the platform (Tabassum et al., 2024). Greater clarity could have been provided to participants about who was involved in the group, and reassurance that their comments during the session were confidential. Previous research in co-design has explored the challenge of equalising power between service providers and users (Donetto et al., 2015). In this project, independent facilitators hosted the sessions, so the research team could attend as group participants rather than leaders. While the NHS Trust hosting the [project] will host the training, and be responsible for future dissemination, it is an area for future work to explore how the varied experiences and connections of the co-design group can be drawn on to maximise the training's impact.

Overall, this paper described the collaborative, iterative process of co-designing a training resource for online forum moderators, drawing on inputs from a range of researchers and knowledge users. This paper provides a detailed description and evaluation of the co-design approach, including how the project successfully navigated several common challenges of IKT, such as funding issues, differing moderator roles and the challenges of working online.

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Appendices

Appendix A: Summary of each session's topics, key discussions and outcomes.

Session N	Topics & Aims	Discussions and Outcomes
1	Introductions, practicalities, and the ethics of forum research	All members of the group introduced themselves to each other, the aim being for everyone to feel more comfortable and get to know the whole team. The research team presented the structure of the wider iPOF project, the main tasks for the co-design group, dates of upcoming sessions, and the payment process. Bank transfers or vouchers discussed as options for payments. Ultimately the group decided to use bank transfer, as vouchers feel tokenistic. The ethics of the project were discussed, with the knowledge users encouraging the research team to share as much information as possible to reassure users about forum research, as well as potential participants in the group.
2	Designing a community of practice & animation	The group discussed dream solutions for the community of practice, with multiple options arising including Whatsapp, a forum, and emails. The need for an owner and moderation of the community of practice itself was noted. The group decided to try JiscMail for the community of practice. The group discussed creating an animation and its purpose, to educate people about how online forums can support mental health. The group decided that a voice- over is important.
3	The moderator role & ethics of moderation	The group discussed the moderator role and how it is different in different settings and organisations, but noting similarities for all moderators. For example, moderators provide reassurance and make sure users are safe. This discussion showed how varied the moderator role is, so the training would need to be applicable in a range of contexts. The differing ethical approach of different forums was also discussed, but overall, all moderators in the group focus on respect and confidentiality. These factors were brought forward as potential topics in the training.
4	Prioritising research questions & animation draft feedback	To contextualise the wider iPOF project and forum research, twelve different research questions were presented. Each person ranked them individually, from most to least important. Collectively, the three highest ranked questions were: 1) How does what people learn in forums influence how they manage their mental health?, 2) How can forums be made safe and welcoming, and 3) What brings people to forums and what keeps them using these services?. These questions were prioritised in the wider iPOF project as topics to focus academic papers on. The group also gave feedback on the animation (which had been drafted by an external company), requesting brighter colours, and removing the music while the narrator is speaking.

5	Animation draft review and feedback	The animation was reviewed again, after the changes from the last session were implemented (brighter colours and removing the music). The group suggested that more male characters should be added, and that some timings should be adjusted. This animation was shared on the study's website, and was later incorporated into the moderator training, in the "Mental Health and Online Forums" topic.
6	Moderator theories from the realist review, and developing the community of practice.	Early theories (in Context-Mechanism-Outcome configurations) that were emerging from the iPOF project's wider realist review were presented and discussed by the group. The group members said that some theories only worked in clinical forums, and did not make sense for moderators who volunteer or who work independently. These factors were noted by the research team as important points to include in early drafts of the training. The latter half of this session was used to give people time to chat in breakout rooms and get to know each other more, both in their moderator roles but also outside of that role. This was hoped to improve the group relationships for the community of practice. The community of practice was set up on Moodle (instead of Jiscmail) by the research team, and instructions on joining were shared with the whole group.
7	Existing moderator training recap and specific challenges for moderators.	The research team presented what they found in existing moderator training for different forums. The research team also proposed a draft structure of the training to be co- designed, which was based on the existing training, discussions in previous sessions, and on the emerging findings from the realist review. Group feedback was that we need to be clear on who the target audience is whether the training will be generalisable for different forums. The group also discussed the specific challenges of moderators and how you can practise self-care, such as setting time boundaries and sharing between moderators. These were noted as important to include in the training.
8	Consensus decision making: topics titles, and an introduction to Xerte.	The research team presented a training plan with 10 modules, based on the feedback from the previous session. Each topic was to be led by a research team member, who will attend CD group twice, firstly to gain initial ideas, and secondly to review a revised draft. The group had a consensus decision making exercise, where each proposed module was discussed. No objections were raised to the modules, but extra points to include were suggested, such as ethics. The group also decided that the term "topics" would be preferable over "modules". The research team also presented the Xerte with draft layouts. The group gave feedback on features they wanted, eg. progress bar, menu button, high contrast text.

9	Version 1 of the first and last topics: "Overview" and "Summary".	A rough draft of the first and last topics created by the research team was shared. The structure and tone of were discussed. The first topic, "Overview" needs to be clear and explain what "forums" are, especially as some places use different language eg. "community" or "wall". The last module needs to review what the training covered and promote sense of achievement with positive feedback.
10	Version 1 of "Encouraging Activity" and "Ongoing Learning".	A member of the research team introduced ideas for two topics "Encouraging Activity" and "Ongoing Learning". The group suggested further ideas on content to add, such as using humour, using emojis, and sharing one's own experience. The group discussed the differences between forum organisations regarding "ongoing learning" – some have ongoing support with supervisors and CPD, but others are less structured. Therefore, the training needs to account for this.
11	Version 2 of the "Overview" and "Summary", and feedback on the co-design process.	The research team presented a revised version of the first and last topics. The group's feedback was to include more pictures, reduce the text and include bullet points instead. The group also wanted a read aloud function. The process of the co-design sessions so far was also discussed. The group valued having the agenda and documents to review in advance of the session. For all sessions after this, the research team sent reminders a few days in advance of the session, with attachments of all documents to be reviewed.
12	Version 2 of "Encouraging Activity" and "Ongoing Learning", and a first look at Xerte.	The research team presented a second draft of "Encouraging Activity" and "Ongoing Learning", and specifically asked the group for ideas on an animation. Group suggested that a bullet point list could be converted to animation, and that self-reflection questions or self-care strategies could be animated. A member of the research team later animated the bullet point list, using Powtoon. The research team also presented the "Overview" and "Summary" topics on the online platform Xerte. The group's feedback was to make the arrow button clearer, make it clearer which text is clickable, and add colour to the titles. All these changes were implemented after the session.
13	Version 1 of "Mental Health" and "Expresing Empathy on Online Forums".	The research team presented a draft for the "Mental health" topic. The group tested 10 self-reflection questions. The feedback was the group liked them and found them thought-provoking but thought there were too many. Following this, the self-reflection question section was reduced to 4 questions. The group also wanted more visual resources, rather than a lot of text. The research team also presented a draft for the "Encouraging Empathy" topic. The group discussed the challenges of empathy as a moderator while maintaining role boundaries. The group found the self-reflection

14	Version 1 of "Managing Risk", and a discussion of a glossary.	question ("think about a time when someone needed empathy") difficult and too abstract to think about, so it was decided that it should be changed. The group also suggested that the research team member should record a video presentation for Xerte, instead of using text, as her presentation was engaging and worked better. The research team presented a draft for "Managing Risk." Group feedback was that their risk procedures were quite different to the research team member's forum, so most of the content would not be relevant. Therefore, there was a need for training to not be too specific, such as removing suggestion to make a call to user. More practical examples would also be useful. A glossary for the training was also discussed, with group
		members adding words which a new moderator might not
15	Version 2 of "Expressing Empathy on Online forums", and a discussion on the differences between managing risk and challenging situations.	know, especially acronyms such as CBT. The research team presented a revised empathy topic with a new self-reflection exercise based on the last session's feedback. The new exercise involves reading a ChatGPT response, and reflecting on what makes it seem "empathic", or not. Group feedback was that the new exercise was thought-provoking, but that the training needs to emphasise that it's about what a human can do – not encouraging the use of AI. The group also discussed the differences between identifying and managing risk and challenging situations. These discussions informed the development and
		separation of the two topics.
16	Version 1 of "Managing Challenging Situations", and Version 2 of "Mental Health".	The research team shared a draft of the "managing challenging situations" topic. The aim was for the group to share first thoughts on the topic – what was missing or could be removed. Some of the language was too vague, eg "respectful" can mean different things to different people. Group members shared the ways in which they managed challenging situations at their forums – eg setting boundaries with users and managing anonymity. These examples were later worked into the training. Also, some language needed to be defined, eg "trolling". This was added to the glossary.
		The research team also shared the revised version of the mental health topic. In line with the last session's feedback, more visual elements were added. The group appreciated the visuals of the "emotion wheel", and the new "wellness action plan" was useful. However, there were concerns it could overlap with the next topic to be developed: "Looking after yourself".
17	Version 1 of "The Moderator Role" and "Looking After Yourself"	The research team presented drafts for two topics, "The Moderator Role" and "Looking after yourself". The differences in the moderator role across the group were discussed, however it was felt that the topic covered the

		different types of moderators well. The group suggested
18	Version 2 of "Monocing	that the "Looking after yourself" topic was too similar to the "Mental Health" topic, so the focus should be shifted away from self-care only. The group suggested a focus on how employers should support moderators, as focussing on self-care puts the onus on the individual, when it may be a wider cultural issue within an organisation that staff are getting unwell. It was suggested the change the title of "Looking after yourself" to something broader.
18	Version 2 of "Managing Risk" and "Managing Challenging Situations".	The research team presented the second version of "Managing risk" and "Managing challenging situations", which had more examples added based on the group's last feedback. Key questions for the group were about the content of an animation. The group suggested the animation could talk through low, medium and high risk and different actions for these. This was created by an artist and the research team and added to the training. The group felt the added examples and self-reflection questions were helpful and made the content feel more real.
19	Version 2 of "The Moderator Role" and "Moderator Support" (renamed from "Looking After Yourself")	The research team presented the revised drafts of two topics, "The moderator role" and "Looking after yourself". The group suggested that including some more examples of moderators' role, such as ensuring users feel welcome by responding to posts. The revised topics included an animation created by the research team. The group liked the animation's sound and visuals, but sometimes it is too slow. The team edited the animation to speed it up. The group thought it was good to have the same information presented both as text and in the animation, as it provides ways for people with different learning styles to engage with the content.
20	The quiz, the community of practice, and dissemination of the training.	This session shifted away from the usual format of presentations, because now all the content was finalised. Discussed the community of practice, the quiz, and sharing the training. Asked "how can we bring the training forward after the end of the study?". Members suggested that the research team should not be afraid of interacting with something not "official" or non- NHS. Future resources could humanise moderators more, eg a "day in the life" video, or videos of scenarios or case studies. The quiz should be a test of understanding not just memory of facts – should be simple and clear, eg. Multiple choice or drag and drop. The knowledge users preferred for the research team to draft a quiz, for them to review and test, rather than creating the questions in the session.
21	Reviewing the quiz and creating the poster.	The group reviewed and tested a draft of the quiz. The multiple-choice questions would benefit from having an explanation of why an answer was incorrect/correct. The

		group preferred the self-reflective questions being at the end of each topic, rather than being added to the end of the quiz. Another type of question, like a drag and drop, would be good to keep the quiz more interesting. All these elements were added to the quiz after this session. The facilitators then asked everyone to provide a few sentences of feedback about their experiences being involved in the co-design process, either over voice or in the chat. Each person's feedback was drawn live and added to a poster.
22	Reviewing the final training, how to share it, and future involvement.	The final Xerte link to the training was shared with the whole group. Ways of sharing the training were discussed, such as in existing social media groups, with the moderators' own forum organisations, and in forum providers' newsletters or webinars. Options for future involvement in the iPOF project were presented by the research team, including the opportunity to co-author this paper and other papers.

Appendix B: Full survey responses

Please describe your experience of taking part in the iPOF co-design group. You are welcome to include both positive and negative experiences.

Participant 1:

The two main group facilitators were friendly, supportive and engaging. This was helpful in being motivated to continue with the process when it felt otherwise difficult and to feel more at ease within the sessions.

It was good to have exposure to a mixture of facilitators as well as researchers and other people from different levels, layers and backgrounds as it provides a broader learning and social experience. It was also good to have a variety of different challenges/things to do such as looking at visual presentations, breakout rooms, listening to people presenting ideas etc as it offers a structure but whilst also having variety within it.

There were a few minor negative experiences which felt like setbacks based on the same issue which is me not having very good verbal communication skills but trying to improve them in an environment that might not be expecting to come across someone who has that type of degree or issue with verbal communication.

Participant 2:

It's been a great project to be part of and it's helped me realise I have a lot of skills to offer to help co-design moderator training and best practice for community managers. I've enjoyed connecting with other people working in similar industries and learning how they make their communities safer. We've been able to improve our own services through the learning that's happening.

Participant 3:

This was a wonderful experience to prepare as a good trainer and facilitior

Participant 4:

I have joined the monthly online meetings when able to, since March 2024. I found the meetings I joined very helpful - it was always very clear in what was being asked of us, with a good mix of updates, breakout sessions and wider discussion to provide our comments and feedback. It was good to see at subsequent sessions that feedback had been incorporated - it has never felt like a 'tick box exercise', it has felt like our contributions have been very valued. People have been able to contribute in different ways, some remaining anonymous, and this has always felt accepted and all feedback appreciated. I picked up that some people who were there as forum users rather than moderators didn't always feel everything was as relevant to them. On my part, I have found it very valuable to find a group of forum moderators to have contact with and have enjoyed being part of the group. Communication has been very good, with reminders and information shared ahead of each meeting, and sharing information and updates afterwards and in between meetings via the community of practice has worked well - I just need to find the time to read the posts!

Participant 5:

I joined a little late in the process but very welcomed straight away. Mostly, I noticed how all the feedback was taken into account and incorporated into the revised versions of the training. Even more importantly, there was a sense of inclusion, respect and the intention to accommodate everyone's needs and diversity. A very kind, respectful, safe and inclusive dynamic between everyone in the group, facilitators and participants.

Please provide any suggestions you have for how we could improve the experience of taking part in future codesign projects.

Participant 1:

It could be helpful to use a reminder in email or during some early stage of the project that acknowledges that there may be varying abilities or challenges that other members may experience or be experiencing. This may be helpful in that it could feel encouraging and inclusive for people who experience certain challenges and also provides context or limits any potential misunderstandings or discomfort amongst other members too.

Participant 2:

The only part that was difficult at times was the frequent break out rooms as no one really wanted to engage with each other or were quite lost on the questions we were meant to be discussing. I think as there were so many during each meet up, everyone was a bit burnt out from them by the end. I felt it always worked better when we were in the main group together discussing ideas and bouncing off each other. That was a better experience for us all I think.

Participant 3:

Take feed back and ask the area to work for

Participant 4:

It has been very good. I joined relatively late on in the project so did feel I'd missed quite a lot, but information was shared with me before I joined my first meeting and I felt very welcome. It sometimes felt a bit disconcerting that some people had their cameras off the whole time, especially when in the smaller breakout groups, but I appreciate the reasons for this and it was positive that the process was so inclusive. Similarly, unless people offered to share who they were / where they came from, it sometimes felt a bit odd that we didn't really know each other. There may have been introductions earlier in the process, or it may have always been intended to be quite anonymous - maybe a bit of explanation around this for new people joining the group. (I'm also conscious that I may have had information shared with me that I just missed!) In terms of picking up that some members who were there with experience of using forums rather than moderating sometimes felt things were less relevant to them, perhaps a bit more structure around this and clarity for people so they felt everything was relevant (or it was clear if there were some elements members should focus more/less on)?

Participant 5:

I think every single suggestion has already been taken on as we went month by month, for instance, the suggestion for an "agenda" before each meeting, or a meeting reminder, or sharing of relevant information before the meeting.