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Evaluation of an arts therapies approach to team development for non-acute healthcare teams in low control and high-pressure environments

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ABSTRACT

Healthcare teams that experience substantial and multiple pressures and lack team social support are at an increased risk of depression, anxiety, compassion fatigue, and ultimately problems with staff retention and patient care. A team development arts therapies approach was developed and piloted to address this issue. Medical Research Council (MRC) guidance was used to design a mixed methods evaluation of the programme following the acute phase of COVID-19 pandemic. Two outcome measures were administered, and a qualitative open text survey underwent thematic analysis. We recruited 92 participants for the evaluation; 90 completed the open text survey and 42 participants completed the outcome measures. The qualitative analysis produced the following themes: Getting to Know the Team in a Meaningful Way; Creative Expression and Reflection; Communicating and Processing Difficult Feelings and Resistances; More Time For Processing; Practical Problems with Whole Team Engagement; Difficulty Engaging in Creative Exercises; Inclusivity and Equality; Psychological Safety. Quantitative results were significant with indications of changes to team social systems. The results of our study show good accessibility, acceptability and effectiveness.

Introduction

As a result of COVID-19, the NHS endured an unprecedented disruption that was both physically and psychologically challenging. Most NHS services and staff are still in a state of recovery (Newman et al., 2022). It is known that crises or disasters can profoundly affect social systems (Perry, 2018) and psychological safety (O'donovan & Mcauliffe, 2020), especially where teams are underprepared. Similarly, COVID-19 provided insight into what happens to under resourced and underprepared teams. Multiple studies indicate that team members' reduced sense of collective ownership of tasks and lack of control over decision making, combined with excessive demands and difficulties creating supportive working environments negatively impact a team's capacity to function (Lamb et al., 2022; Ramaci et al., 2020; West & Sinsky, 2022). The subsequent impacts can be long term; depression,

stress and anxiety (Gilleen et al., 2021) are now widespread issues in the NHS workforce, and if sustained over time, results in compassion fatigue (Xie et al., 2021), burnout (Çelmeçe & Menekay, 2020; Orrù et al., 2021; Sangal et al., 2020; Sumner & Kinsella, 2021; Trumello et al., 2020), poor staff retention and problems with recruitment (Hussein & Turnpenny, 2020; Rangachari and Woods, J., 2020).

Team development, for the purposes of increasing team agency, motivation and teamwork requires some level of reflection and debriefing. Shuffler et al., (2011, p.13) state that "As such team debriefings are defined as interventions that encourage reflection and self-discovery, target potential opportunities for improvement, and as a result improve the quality of experiential learning which thus improves team inputs, processes, and outcomes." Whilst Shuffler et al. (2011), helpfully delineates this category of team development, according to Miller et al. (2018) there are no team development intervention

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evaluations at present for non-acute healthcare settings that meet the Cochrane Collaboration quality standards (see Chandler et al., 2013). In their review, Miller et al. (2018), identified thirteen team development interventions, and describe four brief structured approaches. The identified models use mostly traditional classroom style education approaches that incorporate roleplay, videos, and case study discussion. However, attention to social systems, such as relational and interpersonal awareness, is hard to teach using traditional approaches. As such, we believe that creative approaches to team development may be more effective, especially with teams attedning to their team social systems (M. Perry et al., 2011). Miller et al. (2018) identified the aims of team development as focusing on increasing patient safety, productivity, communication, and problem solving. These foci provide the basis of reducing the experience of high pressure and low control through developing team cohesion and teamworking. According to Millward and Jeffries (2001), creative methods can facilitate organisational development by facilitating solutions to complex problems and enabling co-construction of team characteristics, such as identifications with the team that are based on strengths, as well as increasing motivation and sharing of responsibility. The emphasis on the creative process is also clear in the research by Wróbel et al. (2021) who suggest that creativity in team development can be facilitated through positive affect regulation. Likewise, Acai et al., (2017, p.62) review using art for teamwork and communication. They describe a fundamental component of the change mechanism; 'Engagement in the arts can facilitate the interpersonal development of health professionals through the fostering of an "empathetic imagination" — a cognitive skill set that underlies effective communication and collaboration with others.' Empathic imagination appears to be a central component of various projects designed for teams who were feeling under significant pressure during and after the onset of COVID-19, (for example, see Breathe Arts Health Research, 2021; Brown, 2021; Rubin, 2019). Similarly, whilst not specifically team focused, studies evaluating art therapy group work with healthcare workers, show that using art-making in the context of attuned, empathic and relational responses has scope to impact on anxiety (Dunn et al., 2010), burnout (Belfiore, 1994; Reed et al., 2020; Tjasink & Soosaipillai, 2019) and resilience (Ma & Penner, 2018). Additionally, a recent randomized controlled trial reported promising results for an approach to art therapy based on mindfulness, using mandalas and symbols to enhance the emotional health of healthcare workers (Ho et al., 2021).

Motivated by the emergent evidence, the first author in collaboration with leading researchers conducted a systematic review of the literature, investigating arts-based interventions for healthcare workers during or following a crisis (Havsteen-Franklin et al., 2020). The findings from the review suggested that the mechanisms of change include the following in-session skills employed by the facilitator: developing safety; focusing on strengths and protective factors; enabling participants to provide care and support for one another; processing the emotional response; naming the impact of the crisis; using an integrative creative approach; employing organisational and cultural sensitivity. Based on these findings, we worked with healthcare workers to co-design an intervention that was intended to support team cohesion and the strategic prioritization of tasks that would help teams to manage and recover from conditions of low control and high pressure. Following intervention design and the initial delivery phase, we conducted a preliminary evaluation to answer the question: what is the experience of a manualized arts therapies approach to team development? Sub-questions included: are there helpful and unhelpful factors in relation to the acceptability of the intervention design and can we gain any measured indications of improvements to social systems and resilience?

Materials and methods

This study employed a single arm mixed methods local evaluation of intervention delivery. The evaluation was approved by CNWL NHS Foundation Trust, which determined that ethical approval was not

required following completion of the Service Evaluation Proforma and the HRA decision tool (MRC, 2019).

Participant recruitment

The programme was made available during the pandemic via NHS email communication from the internal NHS communications teams. Information about the project and self-referral could be accessed through a web page (CNWL, 2023). To gather data to evaluate the programme, we designed an evaluation survey form for participant completion after the delivery of the sessions delivered during the period of November 5th 2020 – September 6th 2021. The period of the evaluation was following initial implementation and adjustments following feedback about the structure and content.

The programme was accessed through online NHS communication routes. Six teams self-referred (Fig. 3) via email contact. All six teams were accepted for screening to establish the level of need for the programme in relation to team functioning and that they met a minimum of three of the following inclusion criteria resulting from unforeseen external events that impacted on the functioning of the team: 1) barriers to effective communication; 2) poor reflective time together; 3) lack of confidence in team effectiveness; 4) clinical autonomy; 5) role ambiguity; 6) feeling emotionally overwhelmed 7); poor collective responsibility. However, two teams withdrew prior to the screening meeting and hence did not participate in the evaluation (See Fig. 3).

Intervention design

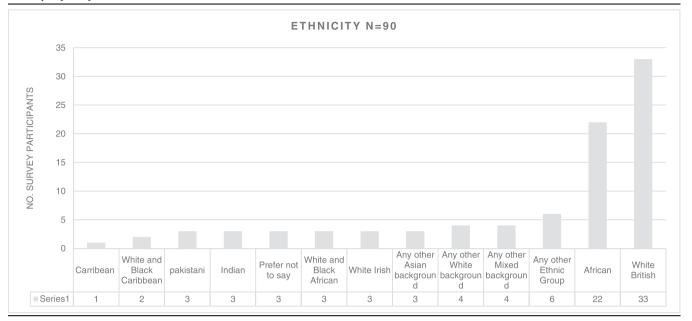
The intervention was called the CaRE Project, referring to Creativity, Resilience and Engagement. It is a manualized model of arts therapies provided over 12 weeks (See Table 1). During the initial phase of implementation, we reduced the time commitment for healthcare staff to attend the workshops. We had originally planned for a series of six sessions over 8 weeks, however the frequency became impractical because of team availability. Reviewing the literature, we noted these issues are not uncommon and have a range of influencing factors, including pressurized schedules (Lawes et al., 2017), prioritizing patient care (Ravaghi et al., 2015) and reduced management investment (Edwards & Palmer, 2019; Newdick & Danbury, 2015).

In response to this initial feedback, we streamlined the intervention into three parts: formulation session with the leadership team; entire team meeting to adjust the proposed delivery and one day of workshops within a team awayday; followed by leadership support and a final follow-up session. The workshops focused on 1) Elaborating on the impact of recent events; 2) Creating a shared mental model of the team ecosystem; 3) Clarifying interdependent staff roles; 4) Defining near future team priorities (see Fig. 1).

The facilitators aimed to help the team develop shared narratives, refelect on their team ecosystem and create future possibilities. A dance movement psychotherapist (DMP) facilitated the body based experiential work. The DMP used movement, projective exercises and guided visualizations to enable participants to increase embodied emotional awareness and social connection (Koch & Fischman, 2011). For the first exercise, facilitators asked participants to metaphorize their team experience by using an object, such as a chair, and to position themselves physically in relation to the object to express their level of control and pressure. Fig. 2.

We then divided the team into smaller breakout groups to allow each participant to share their embodied responses. Following this, the team reflected on any shared experiences and themes from personal and collective perspectives. The second exercise was to support participants to locate themselves within the team ecosystem or, as described by Burns (2012) to connect with the ecological self. Participants were asked to imagine their team as a garden. The rationale for representing the team experience through a natural ecosystem was the application of a systems-based approach; understanding that health professionals work

Table 1 Ethnicity of participants.



within complex and dynamic interdependent systems that can manifest in their relationships and culture (Martin & Sturmberg, 2013). This part of the process uses a narrative-based visualization of walking through the team as an anthropomorphized natural ecosystem. To facilitate imagining the team as a garden, the DMP walked the participants through their team as an anthromorphized natural ecosystem using a guided narrative-based visualization technique. This helps to create a personalized context for the art psychotherapist (AP) to lead on supporting participants to make an image of their experience, embodying their feelings and relationships through visual metaphors (Fig. 3). Once individuals had created a drawing, the AP then made an arts-based response, incorporating the key physical and emotional elements from the participant's images to reflect emergent team dynamics and shared narratives (Havsteen-Franklin, 2014; Moon, 1997). The AT's image was discussed with the team after it was shared to ensure everyone agreed with the co-produced image and to make any changes required. This was followed by exercise three, where participants positioned themselves as elements of the ecosystem within the team garden image. Utilizing breakout spaces and sharing experiences, the team was able to explore relationships, responsibilities, and roles within the eco-system. Exercise four concluded the programme, identifying strategic priorities in order to support a healthy and thriving work environment in the

As an example of the visual record of the eco-systemic process, Fig. 4 is a digital image made by the AP during the programme in response to drawings made by team members (Fig. 3). The image portrays a maze of services, stormy weather, a sense of warmth and playfulness, a complexity of directions, a haven of water, a dark forest and a patchwork of services following discharge.

Research procedures

National Health Service team leaders working in non-acute services contacted the CaRE Project team via an email or an online form. An initial meeting was arranged with the senior management team to discuss the project. Once the project was agreed, a start date was set according to staff availability and planning for full awayday and follow up sessions. The dates for each team commencing the project were August 2021, December 2021, January 2022 and February 2022. Before and after the workshops the pre-test and post-test outcome measures were sent to participants using a QR code using a *Qualtrics* link and

completed online using mobile devices or laptops. Qualitative data collection followed the same procedure, however only once the workshops had been delivered. Consent to use the data was obtained by way of the participant reading a statement about the data use provided on the first page of the questionnaire and agreeing to consent by proceeding.

Quantitative evaluation design, measurements and analysis

Data was analyzed on completion of pre and post outcome measures using a paired T-Test. Missing outcome data were not imputed. A conventional power calculation was not required for this evaluation. The following scales were selected based on alignment with the philosophy and aims of the project focusing on working with systems and utilizing peer support to produce adaptive changes to those systems:

Brief Resilient Coping Skills Scale (BRCS) (Kocalevent et al., 2017). This outcome measure consisted of 4-items which targeted the participants ability to cope with difficult situations. Participants were instructed to respond to each statement on a 5-point Likert scale ranging from 1 (does not describe me at all) – 5 (describes me very well). Higher scores represent increased reports of resiliency and coping skills. The scores are calculated by averaging their responses to the 4 BRCS items (pre-test $\alpha=0.21$; post-test $\alpha=0.52$).

Evaluation of Social Systems Scale (EVOS) (Aguilar-Raab et al., 2015a). The EVOS consists of 10 items, for which participants are asked to reflect on their views regarding team experience, cohesiveness, and communication, using a 4-point Likert scale ranging from 1 (very poor) – 4 (very good). Apart from question 10, ranging from 1 (strongly disagree) – 4 (strongly agree). Higher scores represent greater views from participants regarding team experience, cohesiveness, and communication. The scores were calculated by averaging their responses to the 10 EVOS items (pre-test $\alpha=0.88$; post-test $\alpha=0.87$).

Qualitative evaluation design and analysis

The questionnaire included free text responses, which were analyzed using *Dedoose* software. As the content related to interpersonal experiences, we used a thematizing process as described by Braun and Clarke (2006) within their six-stage process (Fig. 5).

All data was inputted as text into the *Dedoose* software package. The aim of the coding was to identify patterns across the text using an

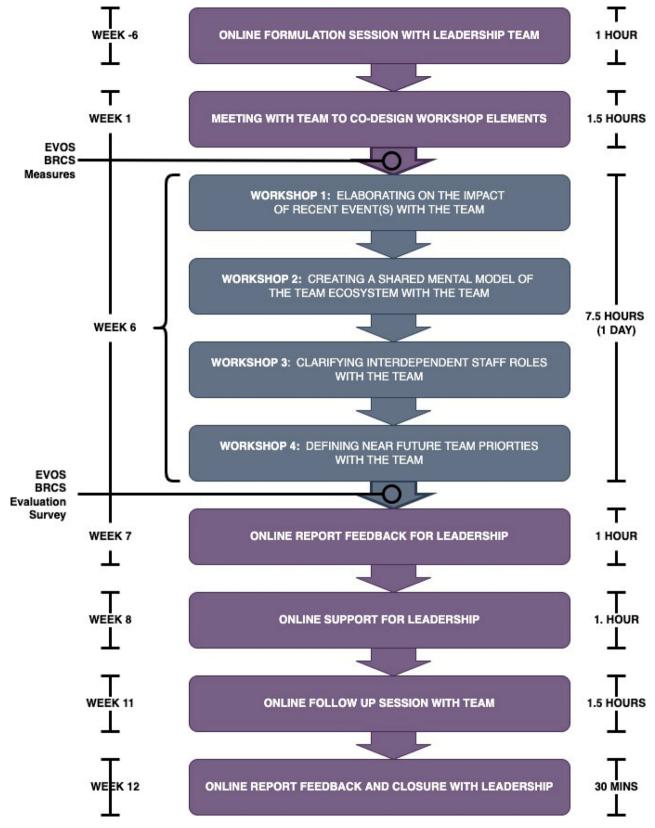


Fig. 1. Flowchart of Intervention Sessions and Workshops.

inductive method of viewing the data from an open standpoint. The coding was driven by the data rather than preconceptions and was interpreted at a descriptive level. Whilst the researchers were familiar with ideas, concepts and theories of team development and arts

therapies practice, the codes were produced and verified through a recursive review process to reduce bias. The first author and third author created initial codes before generating specific themes from those codes by referring to the related material and the study question. All codes and



Fig. 2. Embodied projective responses to 'experiences of the chair as the service during recent events'.



Fig. 3. Participants working in small groups to depict their ecosystem visualisations of a care pathway.

themes were read through again several times by the evaluation lead and then analyzed through coding of excerpts to a full thematic analysis (Fereday & Muir-Cochrane, 2008). The recursive process of developing the themes was assisted by making figurative representations of the data through linking codes using a relational concept map matrix (Conceição et al., 2017) (See Fig. 6). This helped to map the relationship between themes to help make a visual record of both the quantities of excerpts that were coded and their relationship to one another. Through constant comparison of the codes and data, we sought to produce salient themes responding to our question regarding the experience of participating in the workshops.

Results

Participant demographics

In total, there were 42 respondents to the outcome measures from 92 participants and 90 participants completed the survey. 92 professionals from 4 teams participated in this study (Fig. 3). The ethnicity of the participants included 12 ethnic groups, comprising 37% white British,

24% African with 74% female, 22% male and 4% prefer not to say (Table 2). Three of the teams were working in mental health services and one team was a midwifery service. Team 1 was working in medium to long term mental health rehabilitation services, Team 2 were comprised of mental health professionals working with adolescents experiencing mental health issues, Team 3 was comprised of mental health professionals working with school children and Team 4 was a midwifery service.

Recruitment

Through an open invitation to all services in an NHS Trust, 6 teams responded within a 3-month period. Within those teams, there were 148 healthcare workers. The teams included in this study comprised of children's mental health support services (Team 1) in schools (n = 31) adolescent community treatment service (Team 2) (n = 10). rehabilitation service (Team 3) (n = 25) and the midwifery service (Team 4) (n = 26). The two teams that did not engage were Speech and Language Services and Neuro Rehabilitation. Of the 92 participants, 90 participants responded to the survey evaluation and 42 completed the pre and



Fig. 4. The Care Project No.4, 2022, A1, London. Digital Collage.

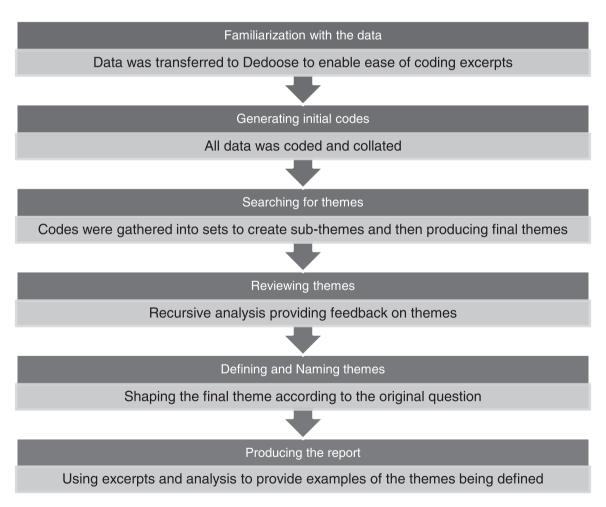


Fig. 5. Thematic Analysis Flow Chart Adapted from Braun and Clarke (2006, p87).

post outcome measures. 2 teams dropped out due to lack of agreed team consensus on formulation and aims (Fig. 7).

Qualitative results

Perceptions of helpful and unhelpful intervention factors

90 respondents completed the open text survey using an evaluation

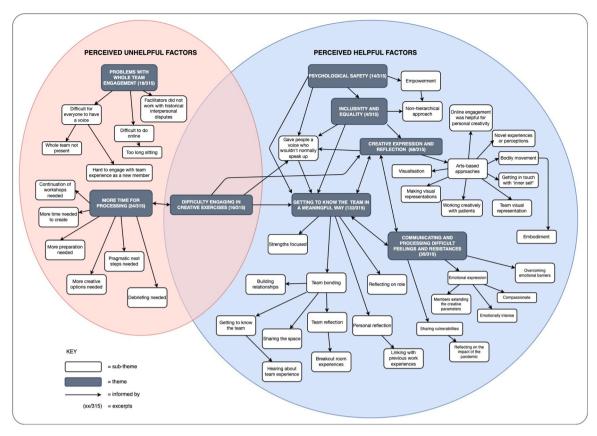


Fig. 6. Concept Map for the Emergent Themes.

Table 2Gender and Age.

Gender	
Female	34
Male	8
Age	
Minimum	23
Maximum	63
Mean	36.95
Standard deviation	11.77

form across 4 teams. There were 315 coded excerpts from the evaluation forms in total. The major themes emerged as Getting to Know the Team in a Meaningful Way; Creative Expression and Reflection; Communicating and Processing Difficult Feelings and Resistances; More Time For Processing; Problems with Whole Team Engagement; Difficulty Engaging in Creative Exercises; Inclusivity and Equality; Psychological Safety, each of which had a range of sub-themes (see Fig. 6). It is notable that in the open text survey responses, there are proportionately fewer codes identifying unhelpful factors compared to helpful. Difficulty engaging in creative exercises appeared to change for most people over the course of the workshops, and therefore was perceived as part of taking a different perspective or engaging with feelings that were hard to accept. However, a small minority of excerpts (0.6%) suggested that the participant did not feel that they received any benefit from engaging in the arts. This is consistent with previous research of arts therapies team development with healthcare teams (Huet, 2017).

Themes

Getting to know the team in a meaningful way

This was the most coded theme (132/315). The pandemic had meant

that healthcare workers were left with some unsettled feelings about changes in role and demands, especially in relationship to working online or with Personal Protective Equipment where there were professional tensions and reduced support. Participants described a process of bonding and experiencing one another in new ways that enabled reflection and team cohesion. In this sense, the team deepened their experience of one another, so that their professional lives felt interdependent and meaningful. This was particularly apparent during the image making processes, where their images were populated with the strengths of the team.

'everyone [had] the chance to bond in and space to think about how we can grow as a team'.

Creativity was often seen as integral to the process of developing a newly discovered depth of emotional interpersonal team experience.

'That it was a completely different and creative arts-based approach. It allowed the team to access feelings and insights in novel ways.'.

This was often in the context of new members joining the teams during the pandemic and some team members had felt it had been hard to get to know colleagues and the culture of the team due to significant changes, pressure, and lack of informal social systems leading to a sense of low-control and team fragmentation.

Creative expression and reflection

A theme was identified that described ways of using the arts forms to facilitate reflecting on the team experience. Helpful forms of arts expression included embodiment and bodily movement, visualization, and personal and team based visual representations. Further to this, excerpts also referred to deepening personal engagement with the impact of crisis events and the arts engagement having a downstream effect on patient care.

This was the second most cited and reflected the level of creative

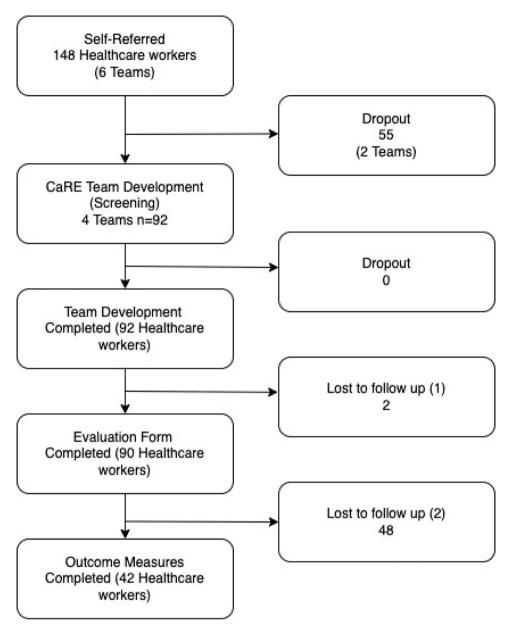


Fig. 7. Flow Diagram.

engagement in the group processes (68/315). Furthermore, respondents said that engaging in the creative exercises made them more aware of feelings, team culture, and their relationships with one another.

'I think this gave the team more creative tools to express how they feel about our team and their role within it.'.

One of the advantages recurrent in the data, was the way in which arts enabled an open and improvised way of engaging and expressing emotional experience.

'Reflecting in such a creative way about the impact the pandemic has had on us both as individuals and as a team.'.

Communicating and processing difficult feelings and resistances

As with the previous themes, it was clear from the coding that participants often associated their openness to one another with creative engagement in the arts, enabling the experience of a safe space with colleagues to explore feelings. This led to a sense that they could receive some feelings and experiences and find ways of communicating with

compassion and emotional vitality (35/315).

'There were a range of difficulties and resistances, but there was time and space to identify these feelings, which felt much needed.'.

Respondents also described finding a way of sharing and processing a sense of disconnection from the team, and complex feelings about team dynamics.

I think it has been important to have a space to de-brief from our shared trauma. The team manages the difficult work that we do with humour and today has been really enjoyable.'.

More time for processing

Excerpts (24/315) were coded where participants stated they would like more time before, during and after the CaRE awayday to engage, process and extend the debriefing. For reasons previously stated, it was not practical to provide more time for the whole team. The excerpts also described participants wanting to slow down the pace of the programme and uncertainty about how the work will be held and sustained within

existing team support structures.

'Not enough time, need more help easing into things.'.

Further to this was a need for pragmatism, thinking about practical next steps. Identifying the required support for the team is part of the programme, however the areas of concerns and related actions are left open to the team to consider in their usual forums.

'Wanting to have follow up around making practical plans.'.

Problems with whole team engagement

A few excerpts (18/315) stated that there were persistent environmental and work-related barriers to whole team engagement. The organization of face-to-face meetings involved careful social distancing during the pandemic, meaning that quieter people sometimes found it hard to be heard due to the acoustics and limited movement.

'The only issue was around hearing feedback in a large group in a large space - Not sure how this could have been improved except by sitting closer which we were avoiding due to covid safety.'.

Likewise, there were excerpts where participants wanted the whole team to be present. Due to staff shortages and the requirements that a minimum number of qualified staff should be available in healthcare environments, it was not always possible to have the full team available on the same day and therefore some of the team history wasn't always available.

'It would have been nice if the full team was present.'.

Difficulty engaging in creative exercises

A small number of excerpts (16/315) described an experience of struggling to engage with creative exercises. Only two participants, stated that they could not engage for the duration of the programme.

'I'm not a huge fan of creative therapies and don't personally benefit from them, however I can see how other people could.'.

The other respondents said that problems with engagement only occurred at the beginning of the process, or with some specific exercises. In many excerpts, feeling uncomfortable was an important part of overcoming systemic and personal barriers to being more emotionally available to colleagues. In one excerpt, there was the experience of the creative exercises being very unfamiliar, 'too out there' to use productively.

'Some of the exercises just felt really uncomfortable and too out there for me but I tried to go with it.'.

Psychological safety

In total 14/315 coded excerpts were associated with this theme. The data suggested that the sense of emotional and relational safety with an external facilitator was important in the context of the pandemic. This meant that participants felt free to express themselves, without judgment or criticism, described in the theme of psychological safety.

'The fact that there was a safe and supportive space provided by the facilitators made it incredibly easy to participate in each workshop.'.

Respondents also noted that they had found the facilitators warm and accessible. This enabled participants to communicate their experience of distress and connectedness and offered the possibility of using the approach as a framework for providing peer-led team development in the future.

'As a shared experience we can use this day as a touchstone reference for the team-we have never had a day like this before where we were guided to express ourselves freely and yet in a safe and contained structure.'.

Inclusivity and equality

A few excerpts (3/315) referred to the sense that the workshops could lead to an empowering, less hierarchical approach to teamwork. This appeared to be achieved through a sense of imaginative empathy and psychological safety. The excerpts described being able to hear one another according to their needs, without bias and offering emotional awareness, providing an opportunity to be more inclusive of team members who may feel undermined or voiceless.

'I hope it allows all members of the team to see each other as equals despite the differences in 'Bands' and be able to share experiences and ideas more openly.'.

This experience of adopting an open dialogue with one another without concerns about seniority appeared to result from participants being acknowledged for having a valued role and identified strengths that contributed to the team tasks and collaborative ecosystem.

'Understanding everyone's problems and that different areas have different concerns, allowed true empathy for others and aids future team working.'.

Quantitative results

The data comprised 42 participants (34 female, 8 male). Ranging from 23 years old to 63 years old (M=36.95, SD=11.77) (Table 2). The main analysis showed that there was statistically significant change identified in the EVOS scale and no significant change with the BRCS scale.

A paired-samples t-test was conducted to examine the impact of the workshop for both social systems and resiliency. When examining evaluation of team connectedness, the EVOS scale showed a significant difference with a medium effect size. The pre-test scores were significantly lower (M = 2.94, SD =0.40) than their paired post-test scores (M = 3.1, SD =0.36); t(39) = -3.51, p = .001, d = -0.56 (Tables 3 and 4). These results suggest that the intervention can be deemed successful when implementing strategies to increase team communication, cohesiveness, and connectedness (Figs. 8 and 9).

When examining personal reports for increased resiliency and coping skills, there were no significant findings. The BRCS pre-test scores (M = 3.77, SD =0.38) were not significantly lower than their paired post-test scores (M = 3.86, SD =0.45); t(41) = -1.47, p = .149, d = -0.23 (Tables 3 and 4). Though this result is not significant, the findings report a small increase in mean averages for the scores (Figs. 10 and 11).

Discussion

Summary

This arts therapies team development programme aimed to facilitate a transition from highly pressurized and low-control experiences to team collaboration, developing creative, compassionate social systems that support the team and their tasks. There are a significant number of personal, team based, organisational, and cultural variables involved in a successful transition. The theory for the design was based on the use of the arts to embody and metaphorize experience, enabling team reflection and emotional processing. We theorized that the intervention would impact on team working and ultimately impact on downstream factors such as team performance, staff wellbeing, staff retention and ultimately patient care and experience. There are some strengths of this study worth mentioning. First, this is the first study of its kind using a mixed methods approach to developing and evaluating a novel creative team development model in healthcare led and delivered by arts therapists. The study demonstrated the importance to teams of offering inclusive, well facilitated, creative, relational spaces where teams can develop narratives about their team culture and their needs in the future. As an initial phase, following the MRC guidelines, we described the change theory,

Table 3 EVOS and BRCS Scale Measurements.

	EVOS					BRCS				
	N	Pre		Post		N	Pre		Post	
		Mean	SD	Mean	SD	_	Mean	SD	Mean	SD
Team 1	10	2.74	0.389	2.91	0.223	10	3.75	0.500	3.85	0.503
Team 2	8	3.08	0.362	3.21	0.439	9	3.78	0.264	4.11	0.377
Team 3	13	3.02	0.453	3.14	0.421	13	3.85	0.439	3.87	0.416
Team 4	9	2.91	0.333	3.12	0.291	10	3.68	0.265	3.63	0.445
Combined Teams	40	2.94	0.401	3.10	0.361	42	3.77	0.380	3.86	0.452

Table 4 Paired Samples T-Test.

EVOS			statistic	df	p	Effect Size	
Team 1 pre	Team 1 post	T statistic	-1.51	9	0.165	Cohen's d	-0.477
Team 2 pre	Team 2 post	T statistic	-0.094	7	0.379	Cohen's d	-0.332
Team 3 pre	Team 3 post	T statistic	-2.96	12	0.012	Cohen's d	-0.812
Team 4 pre	Team 4 post	T statistic	-2.80	8	0.023	Cohen's d	-0.934
Combined Pre	Combined Post	T statistic	-3.51	39	0.001	Cohen's d	-0.555
BRCS							
Team 1 pre	Team 1 post	T statistic	-0.69	9	0.509	Cohen's d	-0.218
Team 2 pre	Team 2 post	T statistic	-2.22	8	0.057	Cohen's d	-0.074
Team 3 pre	Team 3 post	T statistic	-0.23	12	0.819	Cohen's d	-0.065
Team 4 pre	Team 4 post	T statistic	0.48	9	0.642	Cohen's d	0.152
Combined Pre	Combined Post	T statistic	-1.47	41	0.149	Cohen's d	-0.227

Evaluation of Social Systems (EVOS)

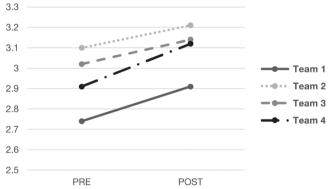


Fig. 8. Line chart displaying team averages for paired t-test.

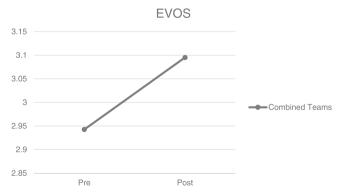


Fig. 9. Line chart displaying averages for all teams combined.

and conducted an evaluation study to identify if the programme was producing any perceived change for the healthcare population at a teambased level.

BRIEF RESILIENCE AND COPING SCALE (BRCS)

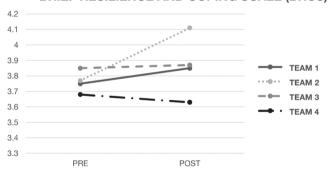


Fig. 10. Line chart displaying team averages for paired t-test.

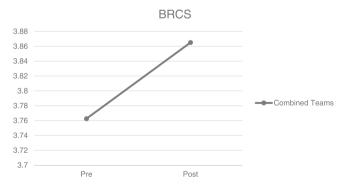


Fig. 11. Line chart displaying averages for all teams combined.

Strengths and limitations

The qualitative results were very positive, with 74% of coded excerpts stating that the programme enabled *Creative Expression and Reflection, Getting to Know the Team in a Meaningful Way* and *Communicating and Processing Difficult Feelings and Resistances.* The most coded themes may not be surprising as the process of using arts for team

development is well documented (Acai et al., 2017; Huet, 2011, 2012); however, important consideration should be given to the small number of excerpts describing difficulty with engaging with the arts (16%) of which a very small number suggested that this continued throughout the project (0.6%). The data also suggestes that the facilitation was intrinsic to enabling a sense of *psychological safety* and *Communicating and Processing Difficult Feelings and Resistances*, which resulted in 99.4% of participants engaging with the creative process.

From the excerpts it is apparent that the intervention was perceived to provide meaningful interactive participation with colleagues through creative communication and expression. Second to this, the structured model of body movement psychotherapy and art therapy appeared to be an acceptable format of team development. The change in quality of social relating was less evident in the quantitative data, but still significant. In our study, the Evaluation of Social Systems (EVOS) scale showed changes in systems thinking, based on salient relational properties of communication, cohesion, atmosphere, giving-and-taking, collective aims, resources, decisions, solutions findings, and adaptability. EVOS is not based on a deficit model, normalization or social problems and instead focuses on positive or negative changes to systems that are applicable across a range of intimate social contexts (Aguilar-Raab et al., 2015). Therefore, finding positive changes in the EVOS properties after the one day of workshops offered a helpful confirmation of the qualitative data, but did not indicate issues related to conflict or disputes that may have occurred in the team. The questions are described in the format of, "For me, the way we talk with each other, is, ...". Completion of the questionnaire indicates whether the respondent views the communication positively or negatively, focusing on the efficacy rather than the content or felt quality of the communication. However, according to previous studies (Aguilar-Raab et al., 2015), EVOS appears to be a sensitive instrument when used in the context of intimate relationships. For example, whilst, contextually different, EVOS has been used with various studies investigating family and couple relationships, demonstrating that EVOS is sensitive to changes in the relationality of participants (Aguilar-Raab et al., 2018, 2022; Grevenstein et al., 2019). The Brief Resilient Coping Scale (BRCS) describes participant inclinations to cope with stress adaptively. This means attempting to resolve problems under pressurized circumstances. We know that during the pandemic stress, anxiety and depression approximately quadrupled in the healthcare population in the UK and our findings are consistent with other studies showing that the rate of recovery has been slow (Gilleen et al., 2021). Therefore, it is not surprising to find in our study that the BRCS did not demonstrate any significant change after one day of workshops, which would be consistent with similar recent population-based studies using the BRCS with a healthcare population (Collantoni et al., 2021; Magdi, 2022; Temsah et al., 2022; Tsehay et al., 2020).

It is notable that early stages of developing closer working relationships and processing emotional experiences do not immediately correlate with increased coping and resilience with this small sample. That said, there was only one team where there was a slight decrease in coping and resilience. Further investigation is required to know why there was a very slight reduction, however, one major difference was that the team with the lower result was the largest team and they were struggling more than other teams with sudden and imposed service wide changes. These changes to staff responsibility and policy were due to service failures in another part of the country and which had received significant media attention at the time. The feedback from the team was very positive, stating that they felt that there was improved cohesion and team working, even going so far to say that the project 'had turned the team around'. Another possibility is that an increased sense of vulnerability may have impacted on their impression of adapting to challenging circumstances during the pandemic.

In this study, there are also several other limitations to be considered. First, there was no comparator control group. Second, the sample size for the quantitative analysis was small (N=42) as is appropriate for an

evaluation but cannot therefore show generalisable results. Third, there was no randomisation and therefore, there may have been a range of confounding factors. Lastly, healthcare teams agreeing to take part in this project may represent teams who are particularly open to creative arts therapies approaches and acceptability may be lower in the wider healthcare population. Also, this evaluation study focuses on healthcare teams working within a UK environment and therefore factors relating to high prevalence of COVID-19 and related issues such as redeployment may not apply to all contexts and further limit the generalisability of the findings.

Further research

Given the paucity of research about team development in healthcare for teams that are working in low control and high-pressure environments, the results are promising. However, the uptake of the outcome measures was also quite low, and the health economics are unclear. The intervention is brief and therefore may be cost effective compared to existing support, for example, training, debriefing, and educational team development. There may also be variations in delivery enabling different formats, and time periods for different teams, and therefore further refinement and development of the intervention and training materials may be required. For example, further development of the intervention could be conducted through an evaluation of contextual and implementation mechanisms and investigating the transferability of skills. Further research should also be conducted concerning the acceptability of the intervention to healthcare workers and patients to estimate future uptake. More data is also required to find out recruitment and retention data, sample size, and characteristics. As this is a team-based intervention, provided intervention development work is completed, we would recommend following Medical Research Council (MRC) guidance, for example carrying out a randomized cluster feasibility study as a viable trial design to determine how a definitive trial would be optimally designed.

Given the indicated impact of the programme on social systems, we would recommend expanding the investigation to include downstream effects such as staff sickness, retention, and patient experience of care. In line with the results, outcomes measure should be selected based on teamwork, wellbeing and adaptation with a sufficient time period for follow up to allow for longer term change, especially to wellbeing and health

Conclusion

The intervention (CaRE Project) aimed to respond to the impact of adverse events on psychological safety, social systems, roles and aims of healthcare teams through a creative approach to team engagement. The study showed promising results and is a good premise to support the development of effective programmes for healthcare teams. This early-stage evaluation indicates that the team development model may offer a creative, inclusive and accessible approach to team development and therefore could be considered as an option for teams that are experiencing low control and high-pressure working environments.

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Data Availability

Data will be made available on request.

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Authors' contributions

DHF conceptualized and developed the paper, provided funding acquisition, investigation and project administration as well as supervision of the project and also wrote and drafted the original paper. JdK proofread, provided project administration and supported thematic analysis. SH and SH supported the design methodology, conceptualization and investigation. TA provided validation and formal statistical analysis. JdK and SH led on review and editing the paper.

Statement of interests

The first and second authors deliver the team development project to healthcare teams across the UK. No other statements of interest to declare.

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