

Scaling Up Task-Shared Depression Care in Texas: Evaluating the Preliminary Effectiveness and Acceptability of a Digital Program for Training Non-Specialist Providers

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Objective: Digital technologies hold promise for building capacity of non-specialist providers to scale-up access to depression care. This study evaluated the preliminary effectiveness and acceptability of a digital program to train non-specialists in the delivery of an evidence-based behavioral activation (BA) intervention for depression.

Methods: Non-specialist providers without prior mental health counseling experience employed within the Baylor Scott & White Health system in Texas were recruited to complete a two-course digital training, and knowledge assessments—at baseline and follow up—to determine preliminary effectiveness. Acceptability and feasibility were assessed through focus groups.

Results: Of 73 non-specialist providers enrolled in the program, 42 completed both courses. Intent-to-treat analysis showed pre-post improvement in knowledge assessment scores (mean difference = 5.4; 95% CI: 1.6, 9.2; $t(53) = 2.87$, $p = 0.006$). Subgroup analyses demonstrated that participants who fully completed the training had pre-post improvement in knowledge scores (mean differ-

ence = 6.8; 95% CI = 2.8, 10.8; $t(39) = 3.46$, $p = 0.001$), whereas those who did not start or who only partially completed the training did not show improved knowledge scores. Framework analysis of the focus groups revealed four themes: training program evaluation, participant feedback and improvements, communication strategies, and support and resources.

Conclusions: This digital program shows potential for building skills and knowledge of non-specialist providers in delivering BA. Continued efforts are needed to support these providers in practice, and ensure quality through supervision.

Relevance to Clinical Practice: The program offers a scalable solution to expanding the behavioral health workforce, representing an opportunity to overcome the significant mental health workforce shortages and ensuring access to quality mental health services.

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Depression is a leading cause of disability in the US, affecting approximately 21 million adults each year, with over one third of cases left untreated (1). A major driver of this gap is the shortage of specialist mental health providers (2), which is particularly evident in low-resource and rural areas (3). For instance, in Texas, roughly 98% of the state's 254 counties are designated as having a mental health workforce shortage, reflected as about one mental health clinician for every 30,000 individuals (4, 5).

Evidence-based psychosocial interventions are highly effective for treating depression and other common mental

disorders (6, 7), and are often preferred by patients over medication (8). However, the dominant delivery model for psychosocial interventions involves a one-on-one session with a mental health specialist making it difficult to scale-up. Task sharing has emerged as an effective approach to bridge gaps in access to specialty mental health services (6, 9), supported in over 100 randomized controlled trials conducted in both lower income (6) and higher income settings (9, 10). This delivery model involves training non-specialist providers without prior experience in mental health care to deliver psychosocial interventions (2, 11). In the US, inclusion of non-specialists in psychosocial

intervention delivery offers promise for improving access and coverage of mental health services (9, 12); yet, there remain significant barriers to implementing and sustaining task-sharing models in routine care settings. This highlights the need to find novel ways to digitize and scale-up training programs to build the capacity of non-specialist providers.

Online training represents a dominant model in the US healthcare system for continuing education, specialty training, or improving basic clinical skills (13); however, this model is not widely utilized for training non-specialists, specifically to develop their skills and competencies to deliver mental health interventions. Such an approach could make headway towards addressing mental health workforce shortages. Therefore, this study aimed to replicate previous successful efforts using a digital platform for training non-specialist providers in India (14–17) by adapting the digital curriculum for use in routine care settings in the US. This study evaluated the preliminary effectiveness, feasibility, and acceptability of a digital program for training non-specialist providers in the delivery of behavioral activation (BA), an evidence-based psychosocial intervention for depression, in Texas.

METHODS

Setting and Participants

Non-specialist providers were recruited from Texas's largest not-for-profit healthcare system primarily serving Northern and Central Texas, Baylor Scott & White Health (BSWH) in Dallas, from September 2022 to May 2023. Inclusion criteria consisted of: employed by BSWH as a non-specialist provider—any frontline worker without prior mental health counseling experience, age 18 and over, and fluent in English. Non-specialists were excluded if they had participated in the prior formative testing and development of the digital training (18). Institutional review boards at Harvard Medical School and BSWH approved all study procedures.

Study Procedures

The BSWH team held meetings and distributed emails to gauge interest among BSWH Directors in providing their staff the opportunity for involvement in this study. The email informed participants that they will gain knowledge about delivering a mental health intervention for adults with depression and contribute valuable feedback to improve the training's deployment and scale-up across Texas to ultimately build the capacity of frontline providers to deliver mental health care. A list of eligible non-specialist providers (based on inclusion criteria) was collected from the clinical coordinator at BSWH, and an email invitation was sent out with further details about the study. The enrollment email described the study aims, process, and included a link to a baseline survey on Qualtrics consisting of an online consent form, followed

HIGHLIGHTS

- This study examined the preliminary effectiveness, feasibility, and acceptability of a digital training program to build capacity of non-specialist providers to deliver behavioral activation (BA) for depression.
- Comparisons of scores between pre- and post-training assessments demonstrated significant improvement in knowledge of delivering BA among those who completed the full training.
- Framework analysis of focus group discussions highlighted four major themes: training program evaluation, participant feedback and improvements, communication strategies, and support and resources.
- Results suggest the training program was effective and acceptable for improving knowledge among non-specialist providers and highlight next steps for scaling up depression care.

by a brief demographics questionnaire, and a pre-training knowledge assessment. Once completed, participants were directed to a registration link for accessing the digital training content. The recommended time to complete the training was 6–8 weeks; however, given time constraints and competing demands for participants, they could take up to 14 weeks. After completing the training, or after 14 weeks (regardless of training completion), participants were requested to complete a follow-up survey, consisting of the post-training knowledge assessment and a satisfaction questionnaire. After completing the survey, participants were invited to join a 45-min focus group discussion (FGD) over Zoom. Participants were compensated \$50 for completing baseline assessments, \$50 for completing follow-up assessments, and an additional \$50 for joining a FGD, representing a total of up to \$150. This payment scheme was revised during the study to \$30, \$70, and \$50, respectively, to improve retention rates. Participants were not compensated for completing the digital training.

Digital Training Program

The digital training program was developed and adapted to the US-context following an approach previously employed in India (14), and drawing from the evidence-based Healthy Activity Program, an effective and cost-effective BA intervention for treating depression when delivered by non-specialist providers (19, 12). The digital training was adapted for Texas through initial formative testing with non-specialist providers at BSWH to obtain detailed feedback, which guided subsequent refinements and improvements to the curriculum (18).

After registering for the training, participants could access the content on a web browser or mobile app. The training content was hosted on a Learning Management System selected for this study because of its widespread use in the US and its accessibility via multiple devices. All

participants were instructed to complete the digital training consisting of two courses. Both courses encompassed instructional videos, text materials, role-play videos, graphics, and quizzes to test knowledge. The first course, called *Foundational Skills (FS)*, introduced learners to basic mental health concepts and essential skills for counseling. The *FS* course was 8 modules long, requiring approximately 10–20 h to complete. General topics covered mental health, effective counseling relationships, confidentiality, social supports, risk assessments, and supervision. After completing the *FS* course, participants could proceed to the second course, called *BA*. The *BA* course covered specific skills necessary for delivering the evidence-based BA intervention for depression. The course consisted of 8 modules, also requiring approximately 10–20 h to complete. General topics covered depression, the BA model, delivering the BA intervention, problem-solving, referrals and assessments. The courses are the first step of the EMPOWER training and do not prepare participants to deliver BA to patients (20); additional steps such as a practice phase and a skills assessment are needed.

Throughout the training, participants received support from a member of the research team who acted as a coach. The coach had a master's level education and a thorough understanding of the training material. The coach provided weekly supportive and encouraging emails with reminders to complete the courses, and hosted optional weekly office hours via Zoom, 30 min each, to respond to questions or discuss content.

Outcomes

Knowledge Assessment. The measure of preliminary effectiveness involved collecting a validated knowledge assessment consisting of a 26-item multiple-choice questionnaire converted to a 0–100 point scale (21), with higher scores indicating a higher level of knowledge, at baseline (pre-training) and follow-up (post-training). This knowledge assessment was developed and validated to assess applied knowledge, which includes short clinical vignettes of real-world scenarios covering the knowledge necessary to effectively deliver the BA intervention (21), and the multiple-choice format allows for scalable evaluation. The measure has been previously employed in India and the US/Canada (22, 23). There are three equivalent versions of the measure to allow measurement at multiple time points. Participants randomly received one version of the test at baseline, and one of the remaining versions at follow-up.

Satisfaction Questionnaire. A 15-item satisfaction questionnaire based on the MUSIC model, which is an existing measure focused on capturing user experiences in remote training programs, was administered during follow-up (24). The adapted questionnaire covered satisfaction with the digital training, including usefulness (i.e., content is

useful for participant future/career), success (i.e., participant can complete and understand the coursework), empowerment (i.e., participant has control over their learning), interest (i.e., content is enjoyable and engaging), and structure (i.e., content is well presented, ordered, and expressed). Participants responded to items on the questionnaire using a 6-point Likert scale rating their sentiment (“Strongly Disagree” to “Strongly Agree”).

Focus Group Discussions. Semi-structured FGDs were conducted virtually by two research assistants from April 27, 2023 to June 8, 2023 to collect additional participant perspectives surrounding the feasibility and acceptability of the training program. A semi-structured interview guide was used, consisting of question prompts about participants' experiences with the training, and suggestion for improvement. Participants who completed the pre-post knowledge assessments were invited to participate in the FGDs ($n = 32$). Of the eight FGDs conducted ($n = 2$ –6 per FGD), one was held for the subset of participants who partially completed the training ($n = 8$) and included additional questions regarding their reasons for non-completion. The FGDs were audio-recorded and transcribed for thematic analysis.

Analysis

Descriptive statistics were used to summarize participant demographics. To examine preliminary effectiveness, analyses of the pre-post change in knowledge assessment scores included “Intent to treat” consisting of all participants who completed both the pre- and post-training assessments regardless of whether they completed any of the training content. Subgroup analyses were stratified across the following groups: “Did not start the training” consisting of participants who enrolled but did not complete any of the training; “Partial exposure” consisting of participants who completed some of the training; and “As treated” consisting of participants who completed the full training. Mean scores and 95% CIs for pre-post assessments were calculated for each group. To examine within-group changes in pre-post knowledge assessment scores, two-tailed paired *t*-tests were conducted for each group. All analyses were completed using Stata version 17.0 (significance level of $\alpha = 0.05$). Responses to the satisfaction questionnaire were tabulated.

Thematic analysis of the focus group was guided by the Framework Method (25), a structured approach, in which predefined themes were derived from the interview guide, while additional themes emerged during the coding process. This method was selected to assess the feasibility and acceptability of the training and to identify suggestions for improvement. Three members of the research team collaboratively developed an initial codebook based on the interview guide, which was iteratively refined through weekly meetings as new themes emerged from the data. Two team members independently coded each transcript

using the revised codebook and resolved discrepancies through discussions with the third team member to ensure inter-rater reliability. Dedoose software was used to manage and support qualitative data analyses.

The research team included members with diverse backgrounds in public health, implementation science, and clinical psychology, which informed their interpretation of the data. To enhance reflexivity and minimize bias, team members engaged in regular debriefing sessions to reflect on their assumptions and to ensure participant perspectives were centered in the analysis.

RESULTS

As illustrated in the study flow diagram in Figure 1, 132 non-specialist providers were invited to enroll in the study, of which 90 expressed interest and were sent a recruitment email. Of these, 73 consented and enrolled, and completed a baseline survey before receiving a link to access the training. Of these 73 participants, 54 completed a follow-up survey. The mean (SD) age was 39.7 (13.3) years, with 90.4% identifying as female, 34.2% as Hispanic, 27.4% as non-Hispanic White, and 27.4% as Black/African American. Most participants reported having a college degree or certificate (57.5%) and never having received any mental health training (64.4%). All participants reported never having received any training in BA. Most participants worked as nurses (27.4%), medical assistants (23.3%), or community health workers (CHWs) (15.1%). There were no differences in demographic characteristics between participants who completed the training and those who did not. Participant demographics ($N = 73$) are detailed in Table 1. Of the 73 participants who enrolled in the study, 48 completed the FS course, while 42 participants completed both the FS and BA courses. Throughout the entire study period, 28 (± 3) scripted personalized coaching email progress reminders were sent per participant (average of 2 emails/week), and 60 office hour sessions were hosted (average of two 30-min sessions/week) in which none of the participants attended due to strong preference for contact via email.

Knowledge Assessment

There was improvement in knowledge assessment scores from pre- (mean = 49.9; 95% CI: 46.6, 53.1) to post-training (mean = 55.3; 95% CI: 51.5, 59.0) for the “intent to treat” group ($t(53) = 2.87, p = 0.006$). Subgroup analyses indicated improvement from pre- (mean = 49.8; 95% CI: 46.0, 53.6) to post-training (mean = 56.6; 95% CI: 52.2, 61.1) for the “as treated” group ($t(39) = 3.46, p = 0.001$); while no improvements in knowledge assessment scores were observed for the “Did not start the training” group ($t(4) = -0.14, p = 0.89$) from pre- (mean = 48.5; 95% CI: 39.2, 57.8) to post-training (mean = 47.7; 95% CI: 30.6, 64.8), and in the “Partial exposure” group (those who either partially completed FS or BA) ($t(8) = 0.38, p = 0.71$)

from pre- (mean = 50.9; 95% CI: 39.0, 62.8) to post-training (mean = 53.4; 95% CI: 43.7, 63.2), see Figure 2.

Satisfaction Questionnaire

Table 2 summarizes participants’ responses to the satisfaction survey. Among 54 participants who completed the training, most reported high satisfaction related to having control over their learning, successfully completing the course, and the presentation/structure of the content, as reflected by the large number of “strongly agree” and “agree” responses. Participants varied in their satisfaction regarding the usefulness of the content in their current/future careers, reflected by a number of “somewhat agree” and “agree” responses. There were variations in responses related to interest in the supplemental materials, around 22.2% disagreed and 31.5% somewhat agreed that the supplemental materials peaked their curiosity.

Qualitative Results

Thirty-two participants offered feedback as part of FGD, and Table 3 provides a summary of the themes, codes, and representative quotes. Results were grouped into four overarching themes.

Theme 1: Training Program Evaluation. Participant feedback on the content and ease of the training was explored to determine the acceptability, relevance, and feasibility of the training.

Training Acceptability

Participants described the training as informative, user-friendly, and well-structured, indicating a high level of acceptability. Their feedback suggested that the platform design and clarity of the content enhanced their motivation to complete the program. Notably, participants emphasized that the material facilitated a deeper understanding of how to communicate effectively with clients, pointing to cognitive and emotional buy-in. This perceived usefulness supports the training’s alignment with participants’ expectations and learning preferences.

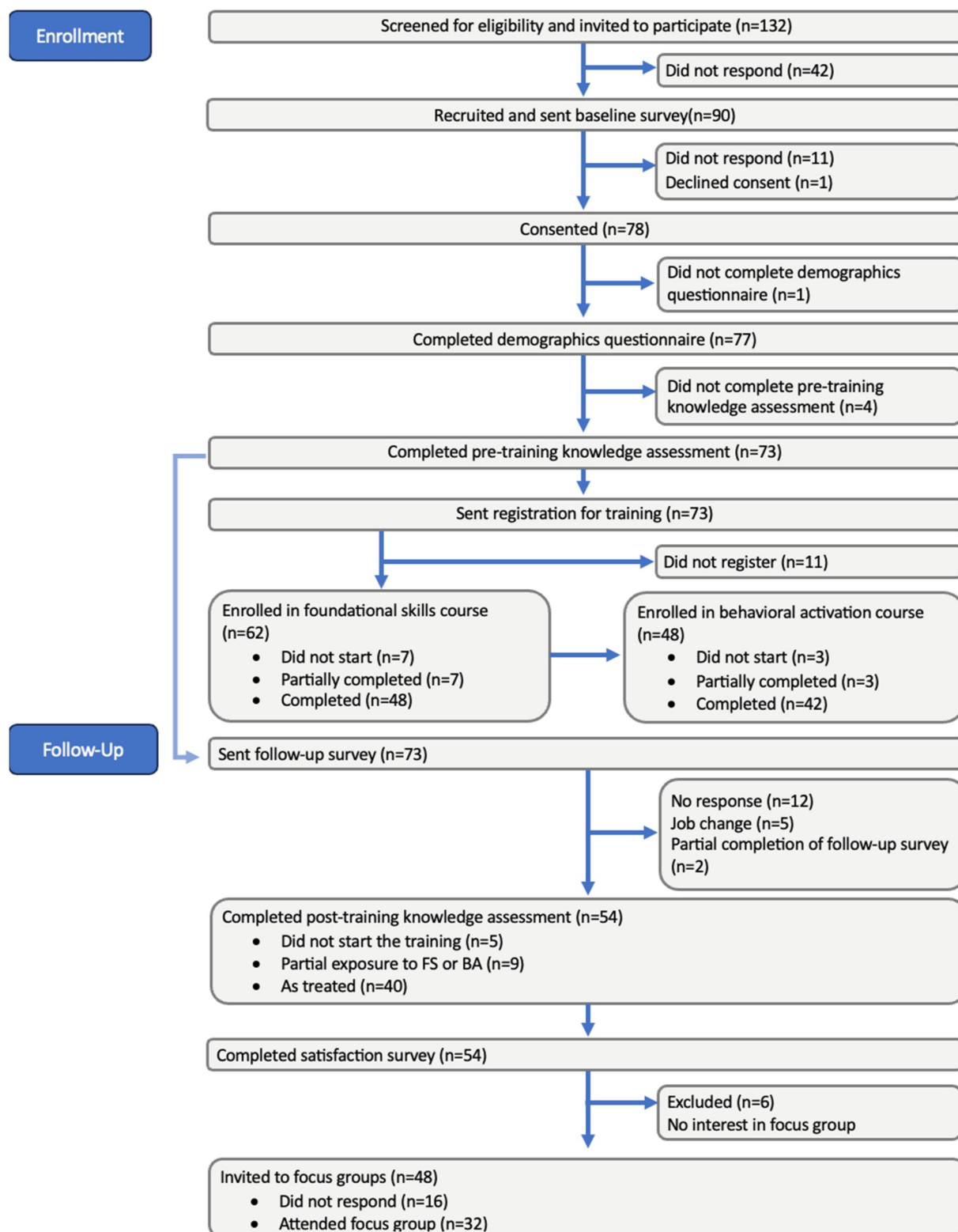
Training Relevance

Participants repeatedly highlighted the real-world applicability of the training, particularly emphasizing its value in equipping CHWs with skills transferable to underserved settings. They acknowledged the program’s alignment with their day-to-day responsibilities and client needs. This perceived relevance suggests the training resonated with participants’ lived experiences and addressed critical gaps in their current practice.

Training Feasibility

Participants cited the ease of access and flexible structure of the training as key facilitators of feasibility. The asynchronous format allowed them to engage with the content at their own pace, accommodating varying schedules and

FIGURE 1. Study flow diagram illustrating participant enrollment and follow-up. Baseline survey includes consent, demographic, & pre-knowledge assessment; Follow-up survey includes post-knowledge assessment & satisfaction survey.



responsibilities. Participants also reported minimal technical barriers, which further supported the training's feasibility across diverse settings.

Theme 2: Participant Feedback & Improvements. Participant suggestions for refinements of the training, explanations for dropouts, and additional comments

TABLE 1. Demographic characteristics of participating non-specialist providers.

Characteristics	Demographic distribution	
	<i>n</i> = 73	
	<i>N</i>	%
Age in years		
20–29	22	30.1
30–39	18	24.7
40–49	14	19.2
50–59	13	17.8
60–69	4	5.5
70–79	2	2.7
Gender		
Female	66	90.4
Male	6	8.2
Non-binary	1	1.4
Race/ethnicity		
Hispanic or Latino	25	34.2
Non-Hispanic White	20	27.4
Black/African American	20	27.4
Asian	3	4.1
Prefer not to say	5	6.8
Education		
High school graduate, diploma or equivalent	2	2.7
Some college or certificate program	42	57.5
Bachelor's degree	19	26.0
Master's degree	6	8.2
PhD or doctoral equivalent	4	5.5
Profession		
Nurse	20	27.4
Medical assistant	17	23.3
CHW ^a	11	15.1
Research staff	7	9.6
Social work	7	9.6
Pharmacist	3	4.1
Finance/accounting	2	2.7
Clinic manager	1	1.4
Clinical pharmacy technician	1	1.4
Healthcare coordinator	1	1.4
Office administration	1	1.4
Outreach	1	1.4
Patient service specialist	1	1.4
Mental health training		
No	47	64.4
Yes	26	35.6

^a CHW, community health worker.

were examined to enhance the course delivery for scalability.

Training Improvements

While participants generally found the training beneficial, several emphasized the need for additional practical tools, such as downloadable manuals or reference guides, to reinforce and sustain their learning. These suggestions reflect a desire for materials that could support knowledge retention and application beyond the digital training. Participants' feedback highlights the importance of incorporating multimodal learning aids.

Training Dropouts

Some participants reported discontinuing the training due to competing personal and work-related responsibilities. These drop-outs point to contextual barriers that can hinder participation, even when the training was perceived as useful. Time constraints, caregiving duties, and unpredictable work schedules emerged as significant challenges, as the training required about 40 h to complete.

Theme 3: Communication Strategies

Communication Strategies Experience

Participants generally reported positive experiences with the frequency and content of communication provided by the research team. Regular email reminders were seen as effective prompts that helped participants remain accountable and adjust their schedules accordingly. These communications functioned as logistical aids and motivational nudges, reinforcing the importance of ongoing coaching and support throughout digital training interventions. The feedback suggests that consistent, structured communication can enhance participant engagement, especially when it includes clear expectations and gentle encouragement.

Communication Strategies Improvements

Despite the overall satisfaction with communication, participants offered suggestions to optimize engagement. Specifically, they recommended emphasizing key information in email subject lines to increase visibility and relevance. Participants also noted that text message reminders could serve as a more immediate and accessible prompt, especially for those who do not frequently check their email. These recommendations reflect a need for multi-channel communication strategies to tailor to the various needs of different participants, which could reduce drop-out rates.

Theme 4: Support & Resources

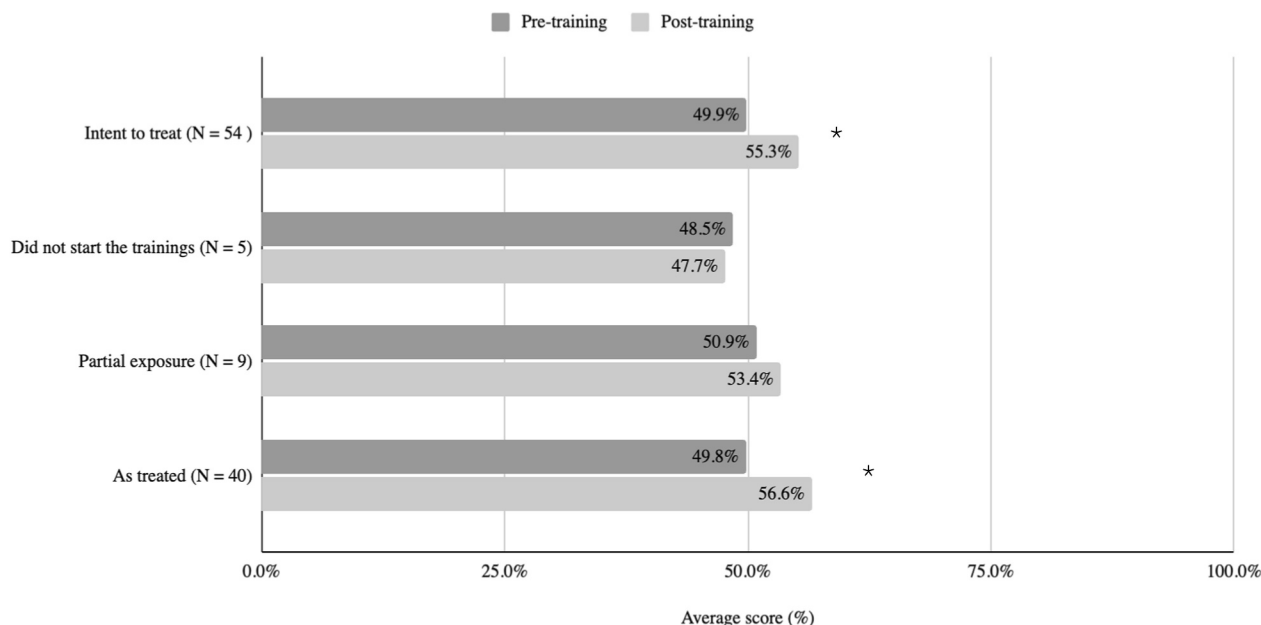
Office Hours Feedback

Perceptions of office hour sessions varied across participants. While some viewed the option to email for assistance as sufficient, others appreciated knowing that synchronous office hours were available, even if they were unable to attend due to scheduling conflicts. This suggests that simply offering flexible support options may foster a sense of reassurance and accessibility, even if direct engagement remains low. The findings point to the value of offering various pathways of help-seeking, while also emphasizing the need to align those options with participants' time constraints and availability.

Additional Lessons Feedback

Participants responded positively to the two role-play video scenarios that showcased both effective and ineffective approaches to counseling sessions. These role-plays

FIGURE 2. Comparison of non-specialist providers' pre-post training knowledge assessment scores¹. * $p < 0.05$. ¹Intent to treat: (mean difference = 5.4; 95% CI: 1.6, 9.2; $t(53) = 2.87$, $p = 0.006$); did not start the training: (mean difference = -0.8; 95% CI: -15.6, 14.1; $t(4) = -0.14$, $p = 0.89$); partial exposure: (mean difference = 2.5; 95% CI: -12.8, 17.9; $t(8) = 0.38$, $p = 0.71$); as treated: (mean difference = 6.8; 95% CI: 2.8, 10.8; $t(39) = 3.46$, $p = 0.001$).



were perceived as valuable, comprehensive, and instructive, helping participants contextualize the knowledge they gained within practical real-world scenarios. The use of contrasting examples enabled participants to critically evaluate different approaches and reflect on their own approaches. This feedback underscores the importance of interactive aspects to enhance the digital training.

DISCUSSION

This study demonstrated satisfaction with the content and layout of the digital training, suggesting program acceptability, as well as preliminary effectiveness in improving non-specialist providers knowledge for delivering a BA intervention for depression. The modest knowledge gains observed (mean improvement of 6.8 points) highlight that the training alone is not sufficient to develop competencies to deliver the BA intervention. Engaging in practice cases with clients and receiving supervision is necessary to further improve knowledge and skills in the delivery of BA. The modest improvements may also partially be attributed to the timing of the assessments as many providers had varying time gaps between course completion and assessment likely contributing to knowledge attrition. Focus group findings suggested that future implementations should incorporate refresher sessions and training manuals to reinforce key content, enhance engagement, and improve retention. Further, aligning assessments more closely with the timing of the training can better capture immediate learning outcomes, while planned longitudinal follow-ups can evaluate the sustainability of knowledge gains. Low

completion rates, in which only 42 of the initial 73 enrolled non-specialist providers completed the full training, highlight potential feasibility challenges, such as time constraints and competing responsibilities of balancing the training with existing demanding workloads and personal life. It should be noted that participating non-specialist providers were not allocated time during their workday, nor were they offered additional compensation beyond what was provided for completing the study assessments. In light of these factors, the number of participants who completed the full training suggests that there is high interest and willingness to learn about how to address depression, given that this required participants to complete these activities in their own time without additional compensation. While the completion rates are low, this study aligns with broader recognition that mental health training is an urgent priority in health systems in the US and that there is a demand for this type of training among frontline providers. Efforts to adequately support and compensate non-specialist providers will be essential to ensure the viability of such training efforts towards building workforce capacity to address gaps in mental health services. This was evident during the study, as revising the payment scheme to gradually increase compensation offered to participants after completing the post-knowledge assessment improved retention rates over the course of the study.

This study extends upon prior formative work conducted in India (15), Pakistan (26), and other LMICs (27, 28) with consistent findings showing effectiveness and acceptability of remote training for non-specialist providers in the delivery of brief interventions for mental

TABLE 2. Post-training satisfaction survey responses from non-specialist providers.

Statements	Response options	Participants responses	
		<i>n</i> = 54	
		<i>N</i>	%
The coursework was useful to me for the role I am in at my current job	Strongly disagree	4	7.4
	Disagree	0	0.0
	Somewhat disagree	4	7.4
	Somewhat agree	15	27.8
	Agree	16	29.6
I enjoyed completing the coursework through this platform	Strongly agree	15	27.8
	Strongly disagree	2	3.7
	Disagree	1	1.9
	Somewhat disagree	2	3.7
	Somewhat agree	11	20.4
I could find answers to questions I had about the coursework in the supplemental materials	Agree	25	46.3
	Strongly agree	13	24.1
	Strongly disagree	2	3.7
	Disagree	1	1.9
	Somewhat disagree	0	0.0
I was confident that I could succeed in the coursework and overcome challenges	Somewhat agree	10	18.5
	Agree	28	51.9
	Strongly agree	13	24.1
	Strongly disagree	2	3.7
	Disagree	1	1.9
The course content was presented in a clear way that was easy to follow and understand	Somewhat disagree	3	5.6
	Somewhat agree	8	14.8
	Agree	26	48.1
	Strongly agree	14	25.9
	Strongly disagree	2	3.7
The training videos used familiar language and expressions	Disagree	0	0.0
	Somewhat disagree	1	1.9
	Somewhat agree	3	5.6
	Agree	24	44.5
	Strongly agree	24	44.5
The training modules were an effective learning tool for understanding mental health concepts	Strongly disagree	2	3.7
	Disagree	0	0.0
	Somewhat disagree	1	1.9
	Somewhat agree	8	14.8
	Agree	24	44.4
The questions at the end of each lesson were helpful in solidifying the content I learned	Strongly agree	19	35.2
	Strongly disagree	2	3.7
	Disagree	0	0.0
	Somewhat disagree	0	0.0
	Somewhat agree	7	13.0
The modules and lessons were organized in a sensible order. I learned well from the progression of lessons	Agree	27	50
	Strongly agree	18	33.3
	Strongly disagree	1	1.9
	Disagree	0	0.0
	Somewhat disagree	0	0.0
The supplementary material left me wanting more information	Somewhat agree	9	16.7
	Agree	27	50
	Strongly agree	17	31.5
	Strongly disagree	4	7.4
	Disagree	12	22.2
	Somewhat disagree	4	7.4
	Somewhat agree	17	31.5
	Agree	11	20.4
	Strongly agree	6	11.1
	Strongly disagree	0	0.0

TABLE 2, continued

Statements	Response options	Participants responses	
		<i>n</i> = 54	
		<i>N</i>	%
The supplemental material was useful to learn the content at a deeper level	Strongly disagree	1	1.9
	Disagree	0	0.0
	Somewhat disagree	1	1.9
	Somewhat agree	12	22.2
	Agree	28	51.9
I was able to gain a comprehensive understanding of the content using the training course	Strongly agree	12	22.2
	Strongly disagree	1	1.9
	Disagree	0	0.0
	Somewhat disagree	0	0.0
	Somewhat agree	11	20.4
The platform was engaging and fun to use as a learner	Agree	25	46.3
	Strongly agree	17	31.5
	Strongly disagree	1	1.9
	Disagree	1	1.9
	Somewhat disagree	2	3.7
I had the opportunity to decide for myself how to meet the course goals	Somewhat agree	16	29.6
	Agree	20	37.0
	Strongly agree	14	25.9
	Strongly disagree	1	1.9
	Disagree	1	1.9
The coursework was useful to my future career	Somewhat disagree	1	1.9
	Somewhat agree	5	9.3
	Agree	32	59.3
	Strongly agree	14	25.9
	Strongly disagree	1	1.9
	Disagree	2	3.7
	Somewhat disagree	2	3.7
	Somewhat agree	14	25.9
	Agree	17	31.5
	Strongly agree	18	33.3

disorders. One study in Pakistan found no significant differences between health workers trained and supervised through a digital program compared to that of a face-to-face training (26). A study in China demonstrated the effectiveness of an e-training program compared to conventional face-to-face training in nursing students for perinatal depression (29). Another study highlighted the acceptability and feasibility of digital technology in supporting non-specialist providers to deliver evidence-based depression care in rural India (15). The current study employs a digital training model with human-led coaching rather than a hybrid approach, driven by its potential for scalability, reduced coordination efforts, convenience, ease of access, and ability to reach a broad audience across diverse geographic regions.

With the high level of unaddressed mental health care needs, especially for minorities, rural areas, and low-income populations within the US (30), this study is timely given the increasing emphasis on leveraging frontline community-based providers to deliver mental health services, aimed at decreasing health inequities, social disparities, and improving access to care (31, 32). Non-specialist providers hold potential to address these barriers and the stigma that

pose significant challenges to meeting the mental health needs within at-risk communities (31, 33, 34) due to their shared life experiences and similar socioeconomic, cultural, and language backgrounds, coming from similar underrepresented racial and ethnic minority groups, and having well-established, trusted social networks within the communities they serve (35).

Several limitations warrant acknowledgement. This study marks the preliminary stage of training and there are numerous subsequent steps to ensuring that non-specialist providers can demonstrate the skills and competencies to deliver the depression intervention. While completing the training appeared to improve participants' knowledge about BA, this study did not assess the quality of their delivery of the intervention in practice, or resulting benefits for patients. Further, the focus on a fully digital training model may result in missed opportunities for real-time interaction and collaborative learning, which may enhance retention and application, despite our efforts to incorporate human-led coaching. It is also noteworthy that the study involved a sample of non-specialist providers that are 90% female recruited via convenience sampling, who expressed interest in learning about depression care;

TABLE 3. Summary of themes, codes, and representative quotes from thematic analysis of focus group discussions with non-specialist providers (n = 32).

Theme	Codes	Center
Theme 1: Training program evaluation	Training acceptability	"What I found most useful was that they went in-depth with the behavioral activation model. And I got better— well, I actually didn't know much about it. I had heard about it from classes in college, but this really went in-depth, and I had no idea that it was so structured. And I don't know. That's what I found most useful for me." FG5 "Well, it was very straightforward. It was concise. It was very easy to use. It broke down things that are important, without getting too technical or overwhelming. Good. Yeah, no. It had a lot of great information in it. It made it seem very accessible to where it made it seem like, I guess, I can kind of do this sort of thing. Something that maybe we hadn't considered, but it made it seem like it was very accessible to pretty much anybody." FG6
	Training relevance	"So it was really good to know that there's a program that also wants to help because I don't know how it is in other states, but here in Texas, just to get an appointment with the right provider, it's very hard. And then even a therapist. And it's whether you have insurance or not because when I was diagnosed, I didn't have any health insurance, but to give this to community health workers who are actually working in the community, it's so amazing because we need it." FG3 "I was able to apply pretty much what I saw on those videos in practice at [redacted]. Yeah, I thought they were very helpful." FG1
	Training feasibility	"I found the training to be very informative, self-paced, not difficult at all." FG2 "I think it was very user-friendly." FG6
Theme 2: Participant feedback and improvements	Training improvements	"But I think I could have gotten even more if I could print the items when I was doing it because I did try to look at them and I can do like a screenshot. But you know those were things to me that would have been helpful if I could have gone back to print some of the things because I do like to look back. I can document on visual at times too, so." FG7 "But even in referencing things in the future, I think a manual, just the short, brief manual beforehand, so that you can jot down notes highlights, I like to highlight things." FG7
	Training drop out	"It gets to the end of the month, we have to turn in our reports and that was just pushed back right. It wasn't taking priority for the same reason that I was like, Well I still have 4 months to finish it. I still have weeks to finish it." FG8 "I was not able to complete it. And primarily, I mean, it wasn't a lot. It wasn't really anything on you guys. And we are in the middle of the end of our fiscal year, we have a lot of things wrapping up. And I juggle a couple of different responsibilities with all of our technology as well as facilities and it just was the wrong time to do, you know, for me to be available." FG8
Theme 3: Communication strategies	Communication strategies experience	"One, the reminders really worked for me, like the emails and the reminders, they really, really worked for me, because if I would see one of the reminders, I would just look at my plan for the day. And if it didn't have this in it, then it just gave me that little, you know, prompt to 'Okay, let me find some time in my schedule'." FG8 "With me, I tend to be kind of forgetful. I do run around a lot. I'm not always at my desk. Actually, about probably around half the time that I'm working, I'm not at my desk. So the reminders actually helped me because it was like, 'Oh, wait. I haven't finished this lesson yet,' or, 'Oh, wait. I haven't done this other thing,' or, 'Oh, my bad. I accidentally did this one part before I did the other part.' So it just kind of kept— it kept me in line because like I said, I can be very forgetful." FG6

TABLE 3, continued

Theme	Codes	Center
	Communication strategies improvements	"If you would've put it maybe in the subject box because I know a lot of the emails, the important part was in the subject box. And so that kind of just got my attention, so like, 'Okay, you need to read this email'." FG1 "I agree as far as text messages, you know, now is always going to be a better way to remind at least for me, because I get, I mean, I'm going to easily get up to 100 emails a day." FG8
Theme 4: Support & resources	Office hours feedback	"For the most part, in my particular case, I felt like, you know, if there was ever something that I needed, that would be relatively short enough to the point where I could just email him directly to get that information. So I didn't really feel the need to go to those office hours. I think that kind of flexibility, where it depends on the person asking for help, what their availability was like, I think that could be one way to improve office hours." FG7 "I think it's great to have out there and just in case somebody did need assistance." FG7
	Additional lessons feedback	"It was pretty interesting to watch, like shadowing professional social workers or counselors through video. So it was pretty interesting to just look at that." FG1 "It was helpful to see what was not the best practice and what was best practice. Kind of hard to remember back, but I think it was helpful to see both sides." FG4

therefore, the sample may not be representative of the broader workforce in the BSWH health system.

Future refinements of the digital training program will prioritize strategies to enhance participant engagement and ensure quality delivery of BA by: (1) integrating role-play scenarios, case-based learning, and additional opportunities for online synchronous discussions with the research team, which may help bridge the gap between theory and real-world application, thereby deepening participants' understanding of and motivation to complete the training, (2) implementing long-term follow-up assessments to evaluate whether initial knowledge and skill gains are sustained over time, (3) ensuring non-specialists engage in practice cases with clients, supported by strong supervision structures and referral systems, to maintain the quality and fidelity of BA delivery, and (4) assessing patient outcomes of BA delivered by non-specialists through measures such as the PHQ-9 to evaluate changes in client's depression scores and determine effectiveness.

CONCLUSION

These findings shed light on the critical but *initial* step that a digital program can play in training non-specialist providers within a large health system. This study adds to a limited, yet growing number of studies examining fully remote digital programs for building capacity of non-specialist providers to deliver psychosocial interventions at scale. It is imperative to establish strategies for adequate compensation, practice-based learning, continued competency assessment, and ongoing supervision for quality assurance and fidelity. These promising results pave the way for the next phase of

implementation, which focuses on enhancing provider knowledge, fostering skill development, and assessing patient outcomes to demonstrate effectiveness in real-world applications.

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