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Medicine plus mindset: A mixed-methods evaluation of a novel mindset-focused training for primary care teams

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ABSTRACT

Objectives: Patient mindsets influence health outcomes; yet trainings focused on care teams' understanding, recognizing, and shaping patient mindsets do not exist. This paper aims to describe and evaluate initial reception of the "Medicine Plus Mindset" training program.

Methods: Clinicians and staff at five primary care clinics (N = 186) in the San Francisco Bay Area received the Medicine Plus Mindset Training. The Medicine Plus Mindset training consists of a two-hour training program plus a one-hour follow-up session including: (a) evidence to help care teams understand patients' mindsets' influence on treatment; (b) a framework to support care teams in identifying specific patient mindsets; and (c) strategies to shape patient mindsets.

Results: We used a common model (Kirkpatrick) to evaluate the training based on participants' reaction, learnings, and behavior. Reaction: Participants rated the training as highly useful and enjoyable. Learnings: The training increased the perceived importance of mindsets in healthcare and improved self-reported efficacy of using mindsets in practice. Behavior: The training increased reported frequency of shaping patient mindsets.

Conclusions: Development of this training and the study's results introduce a promising and feasible approach for integrating mindset into clinical practice.

Practice Implications

Mindset training can add a valuable dimension to clinical care and should be integrated into training and clinical practice.

1. Introduction

Research suggests patient mindsets (e.g., thoughts, beliefs, and expectations) significantly influence healthcare outcomes. Research suggests that mindsets help patients organize and simplify medical information to create meaning (e.g., why is this happening?), make predictions (e.g., what will happen in the future?), and motivate behavior (e.g., what should I do?) [1]. These mindsets may operate consciously or unconsciously. For example, research on placebo effects demonstrates that when patients believe they are receiving an active, effective medication, efficacy increases – even for inactive medications (e.g., sugar pills) [2–4]. Likewise, when patients believe medication will cause side effects, side effects increase [5–7]. In these instances, the ingredients in the inert treatments cannot account for healing or side effects; the treatment's physiological impact is due, in part, to patients' mindsets about treatment [8,9].

Recent research expands on this work and goes beyond foundational mindset research (e.g., research on "growth" and "fixed" mindsets of intelligence in education) to investigate mindsets' effects on health outcomes directly. The mindset that illness is a catastrophe is associated with worse functioning than viewing illness as manageable or an opportunity [10–13], and believing the body is capable of healing (as opposed to incapable) is associated with better wellbeing and outcomes [11,14]. Treatment is more effective, patients engage more in health-promoting behavior, and health improves when patients perceive their healthcare team as warm and competent [15–21]. In one study,

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helping patients undergoing cancer treatment adopt more useful mindsets (e.g., "cancer is manageable" or "cancer is an opportunity to grow" and "my body is capable") improved health related quality of life, increased adaptive coping, and reduced distress from physical symptoms [22].

Mindsets represent an underutilized resource for healthcare teams to improve patient experience and outcomes. Leveraging mindset may be particularly influential for chronic conditions, which must be managed over time and require complex care, lifestyle changes, and partnership with clinical teams.

Despite the impact of mindsets in healthcare, clinicians and care teams currently receive little to no training on mindsets and how to leverage these forces in practice. Training programs exist for improving communication and increasing empathy [23–29] but do not focus explicitly on patient mindsets. Yet shaping patient mindsets ultimately may be what makes these trainings optimal. At their best, communication trainings help providers convey information to encourage adaptive mindsets, such as the mindset that treatment will work or that an illness is manageable, and empathy trainings help care teams instill the mindset that the patient is in good hands; strategies like intentional framing when sharing medical information can help instill these useful mindsets. Motivational interviewing helps clinicians understand patient perspectives and resistance to motivate change; this communication style helps care teams recognize and shift maladaptive mindsets (e.g., "this treatment will not work for me," "my care team does not understand me," "this illness is a catastrophe"). A sophisticated appreciation and understanding of patient mindsets may help care teams use communication, empathy, or motivational interviewing skills more effectively. Training care teams to leverage mindsets in practice could complement existing training programs and give providers new tools to improve patient care. Previous research suggests that strategically targeting mindsets may be more effective than merely sharing information in motivating healthy behavior change [10,30–32].

This study describes reception to a novel training program, Medicine Plus Mindset, to help care teams deliberately leverage patient mindsets in clinical practice. This training provides care teams with (a) evidence to help them understand the influence of patients' mindsets on treatment, (b) a framework to support clinicians' identification of specific patient mindsets, and (c) strategies to shape patient mindsets.

2. Methods

The Medicine Plus Mindset training consists of an initial two-hour session and a one-hour follow-up session one month later, both facilitated by psychologists with mindset expertise (KL, AC). The training includes scientific evidence on how mindsets influence health outcomes and strategies for shaping patient mindsets in practice. The scientific evidence provided includes an overview of research on placebo effects and mindsets in four key areas: treatment, the body, illness, and the patient-provider relationship [3,10,33–36]. The training includes discussion and reflections to connect training concepts to team members' experience and strategies for using concepts in clinical practice. The one-month follow-up session consists of a debrief for applying these strategies in practice and reinforces learning from the initial session.

The Medicine Plus Mindset training was developed by experts in psychology and mindset research (KL, AC) in collaboration and discussion with medical practitioners, administrators, and leadership (MW, CBJ, NS, JS, DT, LK, MM). Development of the training involved two years of iterations and pilot research surveying physicians about their perspectives on the doctor-patient relationship. Leveraging extensive knowledge of mindsets' influence on healthcare, KL & AC highlighted four key mindset domains that evidence suggests influence patients. Mindsets about treatment (e.g., "this treatment will work for me," "this treatment will be ineffective," "this treatment will be harmful"); mindsets about the body (e.g., "my body can self-heal," "my body is capable," "my body is to blame"); mindsets about illness (e.g., "chronic illness is an opportunity," "chronic illness is manageable," "chronic illness is a catastrophe"); and mindsets about the care team (e.g, whether or not "my provider gets it – the disease, the diagnosis, the treatment" and "my provider gets me – my goals, my needs, my concerns"). See supplement for detailed training content.

Initial versions of the training were developed and refined with input from colleagues with extensive experience in implementing mindset trainings across diverse populations. We then conducted four rounds of pilot testing with 27 care team members (physicians, nurse practitioners, medical assistants, and clinic staff) at two primary care clinics. In response to pilot feedback, we included additional discussions, activities, and examples to make increase training interactivity and relevance to non-physician team members.

Because all care team members can shape patient mindsets (e.g., medical assistants can shape mindsets around vaccine effectiveness, front desk staff can signal warmth and competence), the training was designed for both medical and non-medical roles. Primary care clinics were an ideal setting in which to assess this training due to the integral role of primary care providers in diagnosing, treating, and managing chronic illness.

The training was implemented and evaluated in five primary care clinics in two San Francisco Bay Area healthcare organizations. Clinic leadership indicated that participation was mandatory for employees. Using a staggered approach, each clinic received the two-hour training during monthly all-staff meetings in clinic conference rooms. If necessary, clinics closed to provide time for the initial two-hour training session. Participants (n = 186) included primary providers (physicians and advanced care practitioners) (n = 57), medical assistants (n = 53), and other roles, including front desk staff, schedulers, behavioral health specialists, and clinic managers (n = 76).

In four clinics, baseline surveys were completed online as part of a larger, healthcare-system-wide survey (in the fifth clinic, baseline surveys were completed online on their own). Particularly because of the (unrelated) healthcare-system-wide assessment ongoing at the time of our study, there was concern of survey fatigue from clinic leadership. For this reason, assessments after the initial session and follow-up sessions were completed on paper at the conclusion of the training and follow-up sessions. To reduce bias, participants were ensured that responses would remain confidential and would be anonymized, that only members of the research team would see their responses, and that no one from their place of work would see their responses. To ensure confidential responses, research assistants unfamiliar with the clinics entered responses online and de-identified the data; data was analyzed using de-identified numbers for each participant to track responses over time.

We evaluated the training via survey questions using Kirkpatrick's [37] model of four assessment levels—Reaction, Learnings, Behavior, and Results. Level 1, Reaction, assesses the degree to which participants find the training useful and enjoyable. Level 2, Learnings, evaluates the degree to which participants acquired knowledge, skills, and confidence from the training. Level 3, Behavior, assesses the degree to which participants apply learnings from the training to their jobs. Level 4, Results, evaluates the degree to which desired outcomes occur as a result of the training [37,38].

We evaluated the Medicine Plus Mindset training according to Kirkpatrick's model as follows:

Reaction (post-training): Immediately after the initial session, participants evaluated it by answering four questions about its usefulness, enjoyableness, likelihood to recommend the training to a colleague, and level of commitment to using training concepts in practice. Ratings were on a scale of 1 ("not at all") to 5 ("very").

Learning (pre-post change): Self-evaluation of shaping mindsets in practice was assessed with questions at three time points (before training, after the initial session, and after the follow-up session) regarding the importance of mindsets in healthcare and efficacy in shaping patient mindsets. The importance of mindsets in healthcare was rated on a 1 ("not at all") to 9 ("tremendously") scale. Efficacy in shaping

patient mindsets was rated on a 1 ("not true") to 9 ("completely true") scale.

Behavior (pre-post change): Frequency shaping patient mindsets in practice was evaluated twice, before the training and directly after the one-month follow-up session, on a scale of 1 ("never") to 6 ("with all of my patients").

Results: Evaluation of clinical health outcomes was beyond the scope of the current evaluation but is a target for future research.

We also assessed participant job satisfaction using a modified subset of the Professional Fulfillment Index [39] to explore changes in participants' wellbeing before the training session and at the follow-up session, rated on a scale from 1 ("not at all true") to 5 ("completely true").

Survey items were developed by researchers with expertise in survey design (KL & AC), based on experience designing and implementing surveys for healthcare professionals in other studies. Survey items were designed with Kirkpatrick's levels in mind and were worded to minimize ceiling effects often found when asking healthcare providers questions for which there is strong social desirability to answer in certain ways (e.g., to "strongly agree" that doctor-patient communication is important). Items were pilot tested with psychological experts and in pilot clinics.

Participants completed assessments at baseline (n = 128), immediately after the initial session (n = 130), and after the follow-up session (n = 110). Model-estimated means, standard errors, and confidence intervals were calculated for each outcome at each time point; change over time was assessed for learnings, behavior, and job satisfaction by calculating the mean score difference from pre-training to post-training using multi-level longitudinal models across all clinics. Immediate training effects were assessed by comparing baseline (pre-training) values with those immediately after the initial session. One-month effects were assessed by comparing baseline (pre-training) values with values after the follow-up session. Change in behavior and job satisfaction were measured at the follow-up session.

We assessed several different models, including one that controlled for differences between clinics; a second that controlled for differences between clinics and between individual participants; and a third that controlled for differences between clinics, between individual participants, and between care team member role (split into the categories of "physician," "medical assistant," and "other"). We then conducted sensitivity analyses to see which model was most appropriate; we found no significant differences between these different models and results held across all models. Thus, we used the simplest model, which included only a random intercept for each clinic; this model controls only for differences between clinic, because controlling for the additional variables we thought might be important (differences between individual participants and care team member role) did not lead to a better-fitting model.

Qualitative data: We collected open-ended comments in the survey after the initial training session. These comments included appreciations as well as suggestions for future improvement. One clinic agreed to a longer qualitative follow-up: at six months post-initial training, participants were asked "Please tell us how the Medicine Plus Mindset Training has influenced your job or practice." A deductive coding approach was used to categorize representative comments by the levels Reaction, Learning, and Behavior to bring quantitative findings to life.

3. Results

Table 1 presents the point estimates for each quantitative outcome by time point. Table 2 provides a selection of representative qualitative comments for each outcome. A full list of comments is included in the Supplemental Materials.

3.1. Reaction

Of the 128 training participants, 124 completed the items assessing reactions. The training was rated highly: very enjoyable (*Mean = 4.71, SD = 0.67)* and very useful (*Mean = 4.73, SD = 0.59*). Participants reported being very likely to recommend the training to colleagues (*Mean = 4.71, SD = 0.65*) and very committed to using what they learned in practice (*Mean = 4.81, SD = 0.49*). Qualitative data further supported this, with participants remarking on how useful and applicable the training was and highlighting the utility of receiving a training for all members of the care team together.

3.2. Learning

3.2.1. Importance of mindsets in healthcare

Participant reports of the importance of mindsets in healthcare increased significantly from baseline to immediately after the initial session, change = 1.54 ± 0.18 (95% CI: 1.2, 1.9; $p < 0.001$), and remained elevated at the one-month follow-up session, change = 1.51 ± 0.19, (95% CI: 1.1, 1.9), $p < 0.001$.

Table 1
Mean values and changes over time for care team participants in mindset outcome measures, before and after initial and final training session.

Measure	Scale	Pre- Training Mean (SE)	Post Initial Session Mean (SE)	Post Follow-up Session Mean (SE)	Change [CI]
Reaction					
Training enjoyableness	1-5		4.71 (0.67)		
Training utility	1-5		4.73 (0.59)		
Likelihood to recommend to a colleague	1-5		4.71 (0.65)		
Committed to using learnings in practice	1-5		4.81 (0.49)		
Learning					
Importance of mindsets in healthcare	1-9	6.46 (0.15)	7.98*** (0.10)	7.97*** (0.11)	1.51 [1.1 to 1.9]
Efficacy shaping patient mindsets	1-9	6.80 (0.14)	7.78*** (0.11)	7.80*** (1.12)	1.01 [0.65 to 1.4]
Behavior					
Frequency shaping patient mindsets	1-6	4.06 (0.12)		4.78*** (0.10)	0.72 [0.40 to 1.0]
Professional Fulfillment					
Job satisfaction	1-5	3.81 (0.06)		4.23*** (0.06)	0.43 [0.25 to 0.60]

* ** indicates significant difference from pre to post at the $p < 0.001$ level. Pre-training measures were assessed in the months leading up to the Medicine Plus Mindset training, post initial session measures were assessed following the initial training session, and post follow-up measures were assessed immediately after the follow-up session, one month after the initial training. Change and confidence interval values estimate the difference between the one-month post-follow-up session and the pre-training session.

Table 2
Qualitative comments collected after the Medicine Plus Mindset Training.

Comments received immediately post initial session: Reactions
Really wonderful session that was evidence-based, interactive, nicely balanced between didactic info and audience work and reflection. Well paced. Great job. Thank you!
SO helpful and useful for everyone in our team to truly improve our patient care and thus effect their outcome! THANK YOU!!!
This was fantastic - love that you include the whole team
Comments received immediately post initial session: Learnings
I've always been a fan of having a positive mindset but knowing that the body does well after just having the right mindset is truly amazing!
This was a very useful, well presented, relevant discussion. It was eye opening - We take a lot of things for granted and do it as a routine - Very interesting to see the scientific backing to our views
6 month-follow up comments: Learnings
Now I am more mindful about how I communicate with patients and co-workers as well. I see how we all can have a better day at work
It has given me the opportunity to be part of a healing process for our patients.
I remember the strength in 'warmth' and in 'confidence'. I remember some of the words to use and not to use.
6 month-follow up comments: Behavior
I am more aware of my body language and cues that I give while interacting with my patients.
There are some new statements I use with patients as a result of the training – 'I believe that this treatment plan is right for you.' 'Your body has tremendous opportunity to heal. You may need to give it time.'
I do more expectation setting - such as explaining a likely positive effect of a medication. I also tell people what I have seen in my experience, and before I enter the room I use my mantra 'the body has the capacity to heal itself.'
Suggestions for improvement at various timepoints
Recommend more role play and strategies to actually change mindsets.
It would be great if you could highlight how a lot of this is in common with motivational interviewing process. That way, it feels like enhancement vs addition.
I loved the training but had difficulty working into practice due to busy schedule. As time passed, it got harder and harder to get back to it. I wish I could have a refresher course on how to integrate it into daily practice.

3.2.2. Efficacy shaping patient mindsets

Care team members' perceived efficacy in shaping patient mindsets in practice increased significantly from baseline to immediately after the initial session, change = 0.99, ± 0.18 (95% CI: 0.63, 1.3; $p < 0.001$), and remained elevated at the one-month follow-up session, change = 1.01 ± 0.18 (95% CI: 0.65, 1.4; $p < 0.001$).

Qualitative comments supported these findings (Table 2) with participants reporting that the training was "eye-opening" and included compelling scientific evidence (see Supplemental Materials).

3.3. Behavior

3.3.1. Frequency shaping patient mindsets

Care team members reported shaping patient mindsets in practice more frequently after training, pre- to post-change = 0.72 ± 0.16 (95% CI: 0.40, 1.0; $p < 0.001$).

Qualitative data supported these findings (Table 1), with participants reporting changes in behavior, including using different statements as a result of the training (such as "I believe this treatment is right for you"), being more aware of body language when interacting with patients, and more thoughtfully setting expectations for patients (see Supplemental Materials).

3.4. Job Satisfaction

Participants' job satisfaction increased significantly after the training, change = 0.43 ± 0.09 (95% CI: 0.25, 0.60; $p < 0.001$).

A representative selection of comments received after the Medicine Plus Mindset training. Immediate comments were in response to an option to provide additional comments as part of the training evaluation survey immediately post-training. Follow-up comments were collected as part of a follow-up survey at one of the clinics six months after the initial Medicine Plus Mindset training in response to an optional question about how the training influenced care team members' practice. Suggestions for improvement were collected at multiple timepoints; comments in this table were selected for quality and representativeness. Refer to supplementary materials for full list of comments received across timepoints.

4. Discussion and conclusion

4.1. Discussion

We describe a novel training for care teams on mindset in clinical practice and provide preliminary evidence for the utility of the Medicine Plus Mindset Training. Training evaluations coupled with qualitative comments suggest that care team members: (1) found the training satisfying, engaging, and relevant; (2) gained the knowledge, skills, and confidence to shape patient mindsets; and 3) shifted participants' behavior toward shaping patient mindsets more frequently, even six months post-training. Participants' job satisfaction scores also increased after the second training session, although the observational nature of this study does not allow us to conclude a causal relationship. Given the growing body of research on mindsets' influence on healthcare experience and outcomes, development of this training and this study's results introduce a promising and feasible approach for integrating mindset into clinical practice.

Because the concept of using mindsets in healthcare is new, we don't have a lot of data on how these mindsets and the behavior measured translate into clinical behavior and patient outcomes – this is a key area for future research. However, we theorize that these increases in learning (a 19% increase, on average, in viewing mindsets as important in healthcare and a 12% increase, on average, in self-reported efficacy in shaping mindsets) and in shaping patient mindsets (an average increase of 14%) might lead care team members to notice patient mindsets more, shape patient mindsets more frequently and effectively in clinical practice, and to connect more with patients – all of which would be clinically meaningful [9,10,21,40].

There is more evidence surrounding the better-established metric of job satisfaction. Care team job satisfaction can reduce expensive and disruptive employee turnover [41] improve efficiency [42], and reduce absenteeism for employees [43], as well as improve quality of care and patient satisfaction [44,45]. Our study found an increase in job satisfaction of 11%; a modest but potentially powerful increase as the result of three-hours total of training.

Furthermore, given how difficult it can be to shift both job satisfaction and behavior in practice, and how small changes in care team demeanor and communication styles can have large impacts on patient experience that snowball over time to improve the patient-provider relationship, even small changes may be clinically meaningful [46,47]. Clinical meaning should also be evaluated in light of the intensity and arduousness of the training; larger changes might be expected from training programs that are more intensive. We designed the Medicine Plus Mindset Training to be as minimally invasive and maximally impactful as possible; all differences observed are the result of only three hours spent over a one-month period. Even relatively modest changes as a result of this low-intensity training are encouraging and speak to a low cost/benefit ratio for care teams and clinics.

4.2. Practice Implications

The Medicine Plus Mindset Training differs from many existing training programs for healthcare teams in three ways.

First, and most importantly, many other trainings for healthcare providers focus on specific skills, such as motivational interviewing techniques or strategies for empathizing or communicating more effectively [23–25,48,49]. In contrast, the Medicine Plus Mindset Training was developed primarily to *motivate* care teams to implement skills by providing scientific evidence that shaping patient mindsets is central –

not ancillary – to practicing good medicine and delivering a quality care experience. While the training provides some strategies for shaping patient mindsets, it was designed primarily to detail *why* it is worthwhile to shape patient mindsets and provide a framework for shaping mindsets in practice.

The main barrier to improving patient-provider communication and patient education may not be a lack of skills. Rather, it may be a lack of motivation – both internal (beliefs about what is most important in the clinical encounter) and external (what is incentivized, rewarded, and billed for during primary care visits). The Medicine Plus Mindset Training spends most of the training providing evidence for how patient mindsets impact patient health outcomes; this mechanistic understanding of mindset gives team members deeper insight as to how the words said to patients influence health outcomes. We theorize that this provides greater motivation not only to shape patient mindsets in practice, but potentially to strengthen patient-provider communication and patient education more broadly. As the Kirkpatrick Model states, "Many organizations make the common and costly mistake of inaccurately diagnosing poor performance as a lack of knowledge or skill. when the more common cause of substandard performance is a lack of motivation." This framework may also inspire care teams to make better use their existing communication, empathy, or motivational interviewing skills. The Medicine Plus Mindset training complements other trainings that teach skills for strengthening the patient-provider relationship. For example, motivational interviewing could be helpful in eliciting mindset-relevant information to understand patients' current mindsets. Some of the resistance uncovered through motivational interviewing techniques might reveal mindsets discussed in the Medicine Plus Mindset training: patients may be resistant to taking medication because they feel the treatment will be harmful and cause side effects; patients may not want to listen to provider suggestions if they have the mindset that the care team does not understand them on a personal level; patients may be unwilling to engage with behavior change if they feel their diagnosis is a catastrophe that can't be managed.

Second, many other training programs focus solely on physicians [25–27,50–52]. While physicians are key influencers in the clinical encounter, other members of the care team – including medical assistants, front desk staff, and behavioral health specialists – can also contribute to patient education. Thus, the Medicine Plus Mindset Training included all members of the clinic. Qualitative results suggest that this was especially impactful for team members in non-physician roles. The comment "It has given me the opportunity to be part of a healing process for our patients" was from a medical assistant, which we found especially powerful. Other anecdotal reports from clinic leadership suggested that the training empowered care team members in non-physician roles to recognize their impact on patient experience through routine clinical interactions, such as rooming patients, taking vitals, or administering vaccines. Clinic members broadly enjoyed having a training with the entire team in the same room.

Finally, many trainings target specific illnesses, which is useful both for outcome measurement and for intervening on key or at-risk patient populations [27–29]. But the Medicine Plus Mindset Training was designed to be relevant to patients across health conditions, making the information provided less targeted, but more broadly relevant to daily clinical encounters.

This evaluation has several limitations. We cannot assess causation, especially for job satisfaction, given the pre-post study design. For feasibility purposes and to reduce survey demands on care teams, post-training responses were collected in person at the end of the training and follow-up sessions. Despite ensuring participants that their responses would only be seen by the research team – not clinic staff or leadership – participants may have felt pressure completing surveys in the room with their colleagues and the trainers present, which may have inflated responses. Future studies should collect data in a way that more rigorously reduces the possibility of response bias. The number and timing of assessments (limited by the healthcare organization) also does not allow us to assess the sustainability of outcomes over a longer time period. Generalizability is limited by enrollment of five clinics in a single region.

However, this training was designed for maximum impact. The training was structured to take only three hours total and be suitable for all members of the care team. It would be highly feasible to implement outside of a research study. Delivering this training in the context of a research study significantly increased the complexity of implementation by requiring randomization and timing coordination between clinics and pre- and post-training data collection. Without the complexities of data collection and randomization, it would be a simpler process to deliver the first part of the training at a 2-hour initial team meeting and a 1-hour follow-up meeting and demands on care teams would also be lower if teams were not required to complete surveys at multiple time points.

The results of this proof-of-concept study provide a framework for future research to continue assessing the impact of the Medicine Plus Mindset training. Future research should more thoroughly evaluate the training's impact by gathering patient perspectives, including patients' experiences of clinician behavior, and assessing patient mindsets and health outcomes, and investigating the relationship between care teams' understanding of mindset, care team behavior, and clinically meaningful outcomes. Scalability and generalizability should also be assessed, particularly across specialties. Finally, the present iteration of the Medicine Plus Mindset training was delivered by facilitators who are experts in mindset science; future programs should evaluate the feasibility of training others to deliver the training to increase scalability and could investigate the impact of a digital version of the Medicine Plus Mindset Training, delivered at scale.

This is only the beginning of investigating how to thoughtfully and impactfully integrate mindset into practice. A patient education program, focused on mindset, could be delivered directly to patients alongside care teams receiving the Medicine Plus Mindset training, allowing for greater synergy between patient and provider ability to leverage mindset. Future versions of the training could include more specific examples for common conditions; more role-play to practice diagnosing and changing patient mindsets; and greater integration with other communication trainings such as motivational interviewing. And, in future, content from the Medicine Plus Mindset training could be more robustly integrated into daily practice via guidelines for understanding mindset in case studies or refresher sessions.

5. Conclusion

The Medicine Plus Mindset training was developed in response to growing evidence suggesting mindsets have a far-reaching, but often overlooked, impact on healthcare experience and outcomes. These initial results are promising, especially given the training's short duration. They suggest that not only do care teams appreciate and enjoy the training, but it may also help shape patient mindsets and support care team members' job satisfaction. We can help care teams provide better patient care and improve patient-provider communication by equipping them to leverage mindset in clinical practice.

CRediT authorship contribution statement

Kari A. Leibowitz: Writing – review & editing, Writing – original draft, Visualization, Validation, Resources, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Lauren C. Howe:** Writing – review & editing, Formal analysis. **Marcy Winget:** Supervision, Resources, Project administration, Methodology, Formal analysis, Data curation, Conceptualization. **Cati Brown-Johnson:** Writing – review & editing, Supervision, Project administration, Methodology, Data curation, Conceptualization. **Nadia Safaeinili:** Project administration, Methodology, Data curation. **Jonathan G. Shaw:** Project administration,

Methodology, Investigation, Data curation. **Deepa Thakor:** Project administration, Methodology, Conceptualization. **Lawrence Kwan:** Supervision, Resources, Project administration, Conceptualization. **Megan Mahoney:** Supervision, Resources, Project administration, Methodology, Data curation. **Alia J. Crum:** Writing – review & editing, Writing – original draft, Supervision, Software, Resources, Project administration, Methodology, Investigation, Funding acquisition, Data curation, Conceptualization.

Declaration of Competing Interest

None of the authors have competing interests to declare.

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Appendix A. Supporting information

Supplementary data associated with this article can be found in the online version at doi:10.1016/j.pec.2023.108130.

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