Organization leaders' decisions to sustain a peer-led healthy lifestyle intervention for people with serious mental illness in supportive housing

Leopoldo J. Cabassa,^{1,*} Ana Stefancic,² Lauren Bochicchio,³ Daniela Tuda,² Christopher Weatherly,¹ Rebecca Lengnick-Hall¹

¹Brown School of Social Work, Washington University in St. Louis Campus Box 1196, One Brookings Drive, St. Louis, MO 63130-4899, USA

²Department of Psychiatry, College of Physicians and Surgeons, Columbia University, 1051 Riverside Drive, Unit 98, New York, NY 10032, USA

³School of Social Work, Columbia University, 1255 Amsterdam Avenue, New York, NY 10027, USA

Correspondence to: L J Cabassa, ljcabassa@wustl.edu

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Abstract

Healthy lifestyle interventions that increase physical activity and healthy dietary habits can help improve the physical health of people with serious mental illness (SMI). Yet, these interventions are not implemented in routine practice settings. This mixed methods study examined the decisions that leaders from three supportive housing agencies made as they planned to sustain a peer-led healthy lifestyle intervention for people with SMI at the end of a clinical trial. A combination of implementation strategies that addressed cost concerns, generated local evidence of the intervention's benefits, and provided ongoing training was identified as important for sustainability. A sustainability model illustrating implementation strategies and mechanisms for supporting three sustainability domains (funding, organizational capacity, and adaptation) was prioritized by participants. Study findings can inform future studies testing strategies and mechanisms to support the sustainability of interventions in routine practice settings to improve the physical health of people with SMI.

Key words

Sustainability, Serious mental illness, Healthy lifestyle interventions, Mixed methods, Supportive housing

INTRODUCTION

People with serious mental illness (serious mental illness [SMI], e.g., schizophrenia) have shorter life expectancies than people in the general population largely due to cardiovascular disease [1]. Healthy lifestyle interventions that increase physical activity and healthy dietary habits can improve the physical health of people with SMI [2,3]. Yet like many empirically supported treatments, little is known about how to sustain healthy lifestyle interventions in routine practice settings outside of research studies [4].

Sustainability is the ability to maintain the use of intervention components, activities, and benefits over time [5,6]. It is a dynamic process that involves the continuous refinement of an intervention within an ever-changing organizational context [7]. As stipulated by the dynamic sustainability framework (DSF), “the success of an intervention to be sustained over time lies in the measured, negotiated,

Implications

Practice: Our findings indicated that the planning process to sustain health interventions for people with serious mental illness (SMI) in supportive housing must engage clinicians and front-line staff and help build their skills and capacities to deliver and integrate these interventions into their every day practices.

Policy: Helping organizations close the gap between research and practice is an important priority for reducing health disparities in people with SMI.

Research: Study findings can inform future studies testing strategies and mechanisms to support the sustainability of interventions in routine practice settings to improve the physical health of people with SMI.

and reciprocal fit of an intervention within the practice setting and the practice setting within the larger ecological system” [7]. Sustainability involves the dynamic interplay of intervention-, organization-, and system-level factors [7,8].

Organization leaders are key players in shaping sustainability. Leaders must evaluate the attributes of the interventions they are trying to sustain (e.g., cost and compatibility) and use this information to make decisions among a set of dimensions that influence sustainability [6]. These dimensions include seeking and allocating financial and human resources, helping build internal and external partnerships, developing strategies and policies to enhance organization's capacity, leading planning processes and quality improvement efforts, and communicating priorities [6]. These dimensions affect the sustainability of healthy lifestyle interventions [4].

How organization leaders make decisions and prioritize among these different sustainability dimensions remains unknown, particularly as they prepare

their agencies to transition from a research-supported intervention to sustaining the intervention on their own. Studying leaders' decisions can also help identify mechanisms that influence sustainability. Mechanisms are processes through which specific leaders' decisions and actions operate to achieve a desired outcome, in this case, sustainability [9]. Little is currently known about the potential actions and their respective mechanisms to sustain healthy lifestyle interventions for people with SMI. The objectives of this mixed method study were to: (1) explore the decision-making process of leaders from three supportive housing agencies participating in a research-supported implementation of a peer-led healthy lifestyle intervention for people with SMI as they began planning for sustaining this intervention after the end of the study, and (2) identify mechanisms leaders discussed for moving these choices and priorities into actions.

METHODS

Study overview

This study was part of a hybrid Type 1 trial testing the effectiveness and examining the implementation of a peer-led healthy lifestyle intervention for adults with SMI who were overweight or obese in three supportive housing agencies [10]. This trial is registered in clinicaltrials.gov (NCT02175641). Supportive housing is an important service sector for people with SMI because it provides community-based housing in conjunction with health, mental health, and social services [11].

One study site follows a Housing First model in which clients are provided housing without requiring them to receive mental health treatment [12]. The other two sites follow a treatment-first model in which housing is provided with the condition that clients receive mental health treatment [11]. These agencies are located in two Northeastern U.S. cities and receive local, state, and federal funding to support their operations.

We followed the Consolidated Criteria for Reporting Qualitative Research to describe study methods, results, and interpretations of findings (see [Supplementary Material, Appendix C](#)). A simultaneous mixed method design that embedded a survey instrument, the Program Sustainability Assessment Tool (PSAT), within qualitative interviews with organization leaders was used in this study [6]. Quantitative and qualitative data were collected at the same time. We integrated findings from each method during our analytical process to identify the most salient themes that emerged from these analyses. Three frameworks informed our study. The DSF [7] informed our exploration of leaders' perspectives regarding the interaction of intervention, organization, and system-level factors in understanding sustainability. Our exploration of leaders' views of intervention attributes was informed by

the diffusion of innovation theory which stipulates a series of attributes (e.g., cost, relative advantage, and fit) known to influence the implementation of practice innovations [13]. The PSAT was used to inform our inquiry of specific dimensions known to shape leaders' decisions when planning to sustain a new program [6].

Peer-led group lifestyle balance intervention

Peer-led group lifestyle balance intervention (PGLB) is a 12 month manualized healthy lifestyle intervention adapted from the Group Lifestyle Balance intervention [14]. It consisted of weekly core sessions for 3 months, bi-monthly transition sessions for 3 months, and monthly maintenance sessions for 6 months. Sessions lasted approximately 60 min and were delivered to a group of three to six participants in their housing agency. PGLB was delivered by certified peer specialists who were trained and supervised by the study team and were employed at their respective housing agencies [10]. The intervention used behavioral techniques to improve dietary habits and increasing physical activity [14].

Sample

Twelve decision-makers participated in the study, representing a range of leadership positions (e.g., CEO and Program Manager). A purposive sampling approach was used by first interviewing agency directors as key informants. We then asked them to nominate other staff in leadership positions managing health programs. Everyone nominated participated in the study.

Data collection

Semi-structured qualitative interviews were conducted in person or via telephone by the study team members (L.J.C., A.S., and L.B.) with more than 15 years of qualitative research experience combined. Interviews lasted 60 min, were audiotaped, and transcribed. The goal of the interview was to ascertain leaders' opinions on how they were planning to sustain PGLB after the study's completion. The interview guide was informed by the DSF [7], diffusion of innovation theory [13], and the PSAT [6] (see [Supplementary Material, Appendix A](#) for sample of questions included in our interview guide).

Participants completed a modified version of the PSAT [6] (see [Supplementary Material, Appendix B](#)). The PSAT is a validated tool that includes 40 items assessing agencies' capacity to sustain a program on eight dimensions: environmental support (having internal/external support for the program), funding stability (establishing a financial base for the program), partnerships (cultivating connections between the program and its stakeholders), organizational capacity (having the internal resources to manage the program and its activities), program evaluation (assessing the program to inform planning

and document results), program adaptation (taking actions to adapt the program to ensure its ongoing effectiveness), communication (strategic communication with stakeholders and the public about the program), and strategic planning (using processes to guide the program's direction and goals; see <https://www.sustaintool.org/> for information about PSAT development and how it is commonly used). Participants rated the extent to which PGLB as used by their agency had or did the element being presented along a 7-point scale ranging from 1 "to little or no extent" to 7 "to a very great extent." Higher scores represent greater sustainability capacity. We added six items to the organizational capacity dimension to explore the following elements: administrative support, fit with agency culture, availability of resources to achieve program goals, staff buy-in, respect and support for program staff, and internal champion for the program. Our modified version of the PSAT had strong internal consistency (Cronbach's α for dimensions ranging from 0.81 to 0.94). To explore participants' decision-making processes and priorities for sustaining PGLB, we asked participants to rank-order the top three PSAT dimensions they felt were most important for sustaining PGLB and to explain their choices.

A separate rank-ordered question was presented to participants to choose the top three intervention attributes derived from the Diffusion of Innovations Theory (e.g., cost, relative advantage, and compatibility) [13]. Participants were presented a list of ten intervention attributes and asked to select the top three attributes that would influence their decisions to sustain PGLB, rank-ordered them, and explained their choices. Interviewers also completed summaries after each interview to describe general impressions about participants' responses and lessons learned from these interviews. These summaries were reviewed during team meetings to identify common codes and emerging themes, and to determine whether we were achieving data saturation. After 12 interviews, the team concluded that data saturation was achieved as no new information emerged from these interviews.

Data analysis

SPSS version 24 was used to describe quantitative data (e.g., PSAT scores and participants' rankings of PSAT dimensions). Qualitative data were analyzed using a directed content analysis, a deductive analytical approach that derives codes from existing theories and constructs and is used to validate, expand, or refute theories [15,16]. We used PSAT dimensions and intervention attribute categories derived from the diffusion of innovation theory [13] to develop our initial codes. A team of investigators, including the first two authors, independently read each transcript, noted segment of texts that corresponded to initial codes, and met weekly to discuss

and refine codes, interpret the data, and identify emerging themes. A final codebook was developed specifying code names and definitions.

Atlas.ti was used to conduct line-by-line coding of all qualitative data. Two research assistants coded all transcripts under the supervision of the project director. Atlas.ti reports of coded text that focused on PSAT dimensions and PGLB attributes prioritized by participants for supporting PGLB's sustainability were examined. The team drafted analytical memos describing coding decisions, key findings, and emerging themes. We explored whether themes differed by type of housing agency (e.g., housing vs. treatment-first) and respondents (organization leaders vs. program managers) and found no differences in how PGLB sustainability was discussed. The team then merged these qualitative findings with the quantitative results (ranking of PGLB attributes, PSAT survey, and ranking) in the analytical process to examine leaders' priorities on how to best sustain PGLB. Through this process, a model was developed to illustrate the most important strategies and their respective mechanisms for the sustainability dimensions prioritized by participants. The team used established strategies (e.g., peer debriefing meetings) to ensure analytical rigor [17].

RESULTS

Participant characteristics

The 12 participants included 3 executive officers, one from each agency, and 9 managers, 3 from each agency. Most participants were female (83%) and non-Hispanic whites (92%). They had worked on average 5 years at their agencies and had more than 10 years of experience working in supportive housing and with the SMI population.

Leaders' assessments of intervention attributes and program sustainability dimensions

To examine participants' decision-making process for sustaining PGLB at their respective agencies, we first explored their assessment and ranking of intervention attributes and program sustainability dimensions. The top choice was cost (41.7%), followed by relative advantage (25%, i.e., evidence of PGLB's effectiveness) and that PGLB had a training process and program manual (16.7%; see [Supplementary Table 1](#)). Cost, particularly that PGLB could be reimbursed (e.g., Medicaid), was discussed as critical for sustainability. Regarding relative advantage, participants talked about how evidence of PGLB's effectiveness would demonstrate that this program is a worthwhile investment. Participants valued PGLB having a training process and program manual, since this would help agency staff continue developing their PGLB skills. Other PGLB attributes selected, mostly as second or third choices, included PGLB's compatibility with the organization which focused on the importance that PGLB fit with

agencies' operations, structures, and priorities, and social influence of reputable organizations referring to having national organizations recognizing the value of PGLB as an evidence-based intervention, thus providing legitimacy for sustaining PGLB.

PSAT scores and rankings of the top three PSAT sustainability dimensions considered critical for sustaining PGLB are presented in Table 1 and Supplementary Table 2, respectively. PSAT domains with the highest average scores were organizational capacity (5.0), program adaptation (4.8), and

environmental support (4.5), indicating that participants considered that these were to some extent present at their agency for sustaining PGLB. The lowest scores were for the dimensions of communication (3.2), funding stability (2.9), and partnerships (2.8), indicating areas in which agencies would have to work on to sustain PGLB. Participants' top choice for the most important PSAT dimensions to sustain PGLB was funding stability (50%), followed by program adaptation (25%), and organizational capacity (16.7%). Other PSAT dimensions selected as second or third choices included partnerships, program evaluation, and environmental support.

Table 1 | Average scores on the Program Sustainability Assessment Tool

Sustainability dimensions ^a	Directors (n = 3)		Program Managers (n = 9)		Total (n = 12)	
	M	SD	M	SD	M	SD
Environmental support	4.7	0.9	4.3	1.5	4.5	1.3
Funding stability	2.7	0.8	3.0	1.3	2.9	1.2
Partnerships	1.7	0.6	3.2	1.7	2.8	1.7
Organizational capacity	4.9	1.0	5.2	1.3	5.0	1.2
Program evaluation	3.2	1.0	4.3	1.5	3.9	1.4
Program adaptation	5.0	1.2	4.8	1.3	4.8	1.2
Communications	2.2	0.6	3.8	1.3	3.2	1.3
Strategic planning	2.9	0.2	3.9	1.6	3.6	1.4

^aThe dimensions of the Program Sustainability Assessment Tool (PSAT) were scored on a 7-point scale ranging from 1 "to little or no extent" to 7 "to a very great extent." Higher scores represent greater sustainability capacity in each dimension.

Sustainability model

A sustainability model emerged from triangulating participants top choices of intervention attributes and sustainability dimensions for supporting PGLB at their respective agencies and their explanations for these choices (Fig. 1). The model integrates our quantitative and qualitative data by capturing the specific strategies and mechanisms participants described for moving these choices into action for supporting the domains that were consistently prioritized to sustain PGLB.

Funding

Funding was discussed in participants' interviews as fundamental for PGLB's sustainability. Resources were needed to pay for PGLB staffing, supervision, and materials. Participants emphasized that funding, particularly a Medicaid reimbursement model, would "solve all sustainability problems pretty much" (Manager [M]) and would make "it a no brainer" (Director [D]) to continue to offer PGLB. Participants highlighted two main funding options: (1) make PGLB reimbursable by restructuring existing contracts or billing mechanisms and/or (2) seek new funding opportunities. Key strategies

Fig. 1 | Peer-led group lifestyle balance sustainability model.

discussed as necessary to obtain funding included evaluation, communication, and partnerships.

Participants' interviews revealed that a primary mechanism by which evaluation could be linked to funding for PGLB was through its potential to demonstrate PGLB's impact, thus bolstering the support from agency leaders and funders to sustain PGLB. Evaluation was discussed as important for generating local evidence of PGLB's value and capacity to address clients' needs. "Because people will not fund things without outcomes. . . I feel like we have a lot of competing needs; and how are we going to make decisions about priorities... it's just we need some way to prioritize what we're going to try and pay for (PM)." Participants identified health outcomes, such as improvements in health conditions (e.g., reduced obesity) and potential cost-savings (e.g., fewer ER visits) as critical for convincing funders to invest in PGLB.

Communication was considered important for securing funding, primarily because it could facilitate the development of internal and external coalitions to support PGLB. Participants described how communicating PGLB's value and outcomes would help build support among agency stakeholders (e.g., board of directors) activating them as champions who could then promote PGLB and engage outside funders. "Evidence, good advocacy and lobbying, because we know that advocacy and lobbying goes behind anything with funding (PM)."

Pursuing funding required agencies to leverage existing partnerships or build new ones to cultivate external buy-in and strong relationships with potential funders, increasing the likelihood of ongoing support. Leadership identified two approaches for using partnerships to secure funding. One was to target funders whose priorities match PGLB's goals and objectives. The second was to engage a wider range of funders to create new partnerships and convince funders to expand their focus to prioritize the physical health of people with SMI. Given that healthy lifestyle interventions are not a routine service within supportive housing, participants mentioned the need to look for new funding opportunities that usually do not fund these types of agencies. Overall, engaging in evaluation, communication, and partnerships were considered vital strategies to demonstrate the intervention's value, build buy-in, and increase commitment from potential funders, all necessary to secure funding for PGLB.

Organizational capacity

Given that the expertise, oversight, and resources brought by the researchers would no longer be available to agencies as the study ended, participants discussed how their agencies would need to develop the capacity to operate PGLB on their own. Participants identified multiple inter-related

strategies to build their organization's capacity, including restructuring PGLB-related roles, responsibilities, supervision, and administrative structure; training; linking PGLB to existing practices; and engaging in program evaluation.

Restructuring focused on facilitating the fit of PGLB into agencies' operations and required that decisions, such as in which organizational unit to house PGLB (e.g., residential or clinical unit), how broadly to define the responsibility and scope of work for the peer specialist and their supervisors, and to specify how the program would receive administrative support. For each decision, participants highlighted important nuances, deliberating, for example, whether it was more important to designate a PGLB supervisor with expertise in peer specialists or with expertise in health, and how to balance those two needs. "I think in general, there is the plus side of it being on the health side. The downside is the record-keeping is a mess. . . For it to really be in the fabric of the supportive housing side, it really needs to be supervised by supportive housing (D)." Another decision was whether the peer specialist would have a narrowly defined role to only deliver PGLB or whether it would include a broader health focus. "Peer specialists... maybe had some dual roles... it actually might be really interesting to make it... more generalized as a health-focused peer and like then there's health focus of a peer that does not just have [PGLB] (PM)."

While participants discussed the critical decisions that needed to be made regarding restructuring, most agencies appeared to be in the earlier stages of planning for these changes. At this stage, communication within each agency was a key process that was necessary to kick-start these restructuring activities. "My team is all for it and I'm excited. But it's not like I've gone over. . . and said 'what did you guys think about it?' Or gone to, you know, the COO and said 'what's your plan?' I haven't even asked — you know, our CEO if there's a strategy for moving this along (PM)."

Participants identified ongoing training in PGLB, via partnerships with outside purveyors, as necessary for staff who would be delivering and supervising the intervention to address staff turnover and maintain intervention fidelity. Beyond PGLB-specific training, participants identified the need for two additional types of training from outside partners to increase their capacity to integrate peer-led services at their agencies. One was a broad training on the approach and value of peer-delivered services for front-line staff to increase their familiarity, knowledge, and buy-in with these services. Another was training for supervisors on the unique aspects of working with, managing, and retaining a peer workforce. Developing and maintaining partnerships with relevant expertise once again emerged as a key process for securing these trainings. "We

set up technical assistance with an organization to provide the ongoing support. I think with evidence-based practices it is so key to managing the fidelity. You have to have training and ongoing support. It doesn't have to have the person on-site, it can be conference calls, video conferencing...It's the ongoing support that is key (D)."

Although PGLB had been embedded at each agency during the trial, it operated within a programmatic silo. Participants emphasized developing better linkages between PGLB and existing agency practices as a strategy to break this silo. "I don't want it to be like another siloed thing... where this peer is no longer seen as part of our team... even [PGLB Peer Specialist] integrating into this team really kind of didn't happen... a lot of times, people will be like who's [PGLB Peer Specialist]? He's listed on our healthcare list but like nobody knows him... As it grows, and we develop more of those positions and like really direct connections between this department and that department . . . how to make that sort of connection more deliberate (D)." Specific strategies to create these programmatic linkages focused on increasing administrative structures and communication between PGLB and other agency programs and units.

Administrative structures focused on incorporating clients' PGLB goals into treatment plans and progress notes and developing PGLB-specific policies and procedures outlining how it interfaces with other programs. Communication strategies included having peer specialists participate in committees and meetings and having PGLB as a recurring item on meeting agendas. Breaking these silos would increase other staff's familiarity with the basic concepts and goals of PGLB, helping to align any health-related service they might provide with PGLB principles and fostering a team approach to promoting healthy lifestyles. "I think any of our staff that interacts with people trying to work on behavior change... I feel like it would be helpful for them to understand sort of here are the basic concepts or tenets of PGLB, so that we're not... working at cross purposes... you want to understand what people are learning so that you can... repeat those messages or continue to be consistent in the messaging as much as possible. I think that would include case managers and behavioral health people and medical people and nurses, understanding what [PGLB] is (D)."

Similar to demonstrating PGLB's value to outside funders, building capacity for continuous program evaluation was important for improving programmatic decisions and securing internal staff support for PGLB. Evaluations could help identify program strengths, problematic areas (e.g., low client engagement), and potential program adaptations to address emerging needs. Discussions regarding evaluation highlighted the need for agencies to develop or

enhance their infrastructure to collect, use, and report relevant local data. This need was not unique to sustaining PGLB, but was driven by funders' priorities and expectations, and the broader movement towards implementing evidence-based practices. Engaging partners was once again a key process for developing this type of capacity since agencies needed external support to train staff in program evaluation and quality improvement methods, and to help with identifying, collecting, and managing relevant outcome data.

In all, the strategies of restructuring, training, linking PGLB to existing practices, and building infrastructure for evaluation were necessary to clarify roles/responsibilities, maintain and develop staff expertise and skills, create a team-based approach to support PGLB activities, and demonstrate intervention value to enhance staff buy-in. These strategies and their respective mechanisms were critical for integrating PGLB within these agencies.

Adaptation

Participants discussed how their agencies needed to be able to identify how post-study PGLB would be adapted to meet changing agency contexts and client needs. Three strategies were discussed: identifying core components to sustain positive outcomes, adding supplementary services to enhance PGLB, and modifying PGLB to meet the needs of sub-populations within their agencies. These strategies would facilitate agencies' ability to refine PGLB to increase its fit and reach. Unlike for funding and organizational capacity, participants did not have the expertise and infrastructure to conduct these adaptations. Instead, they wanted external guidance, relying on partnerships with PGLB researchers, that would provide information to help agencies make determinations regarding PGLB's duration, content, and resources without compromising fidelity and effectiveness. "[T]he other sustainability thing around fidelity that we would want to hear from [the researchers] ...is what your findings are about which of the fidelity factors are the most critical? Over time... there is often slippage. There can't be slippage around what's critical...when [researchers] leave there is going to be new research and there is going to be new stuff around weight loss and exercise. How do we keep up? What is essential to the intervention? Where should we be looking to improve the intervention when we are on our own? . . . [F]ive or six years from now, if this looks the same, we are probably doing something wrong. (D)"

Discussions regarding identifying supplementary services that would enhance the delivery of PGLB focused on adding activities that expanded opportunities for the practical application of PGLB concepts. This included activities, such as cooking classes, walking groups, and hands-on assistance with food

shopping. These activities are within the scope of PGLB, but participants wanted them to become standard practices of PGLB, given the challenges people with SMI face engaging in health behavior change. While agencies could offer certain supplementary activities, they also needed to rely on external partnerships for additional services that they did not have the capacity to provide themselves.

Another component was the need to adapt PGLB to the needs of specific populations that required extra support due to co-occurring health conditions or substance use. “I think that something specific for the population that has diabetes would be really helpful... So maybe like a group specifically for people with hypertension... that gives them a little bit more support in very specific ways . . . for people like opioid use disorder...I see it as keeping the curriculum generally the same (PM).” In all, adaptation represented a necessary process to innovate and refine PGLB to match the needs of their client population and contexts.

DISCUSSION

This study described the choices and priorities leaders from three supportive housing agencies made as they began planning for sustaining a peer-led healthy lifestyle intervention for people with SMI after the end of a hybrid trial. Specific strategies and mechanisms were identified regarding how they would move these choices and priorities into action. Understanding how implementation strategies and mechanisms are linked to support sustainability can help advance the development, evaluation, and use of these strategies in routine practice settings to sustain interventions like PGLB.

The sustainability of an intervention within an organization is influenced in part by how organization leaders perceive and evaluate intervention attributes (e.g., cost) and how these attributes fit or not with organizations’ operations [13]. These perceptions shape leaders’ decisions regarding the resources, infrastructure, and capacity needed to support the ongoing use of an intervention and help leaders identify potential modifications to the intervention and/or their organization to improve sustainability [13]. The intervention attributes most valued by study participants suggested that a combination of implementation strategies that address cost concerns, generate local evidence of PGLB’s benefits, and provide ongoing training may be required to sustain PGLB within supportive housing.

Moreover, participants’ responses and discussions of the PSAT items and overall sustainability dimensions generated three basic themes (funding, organizational capacity, and adaptation) that captured leaders’ decisions and priorities for how to sustain PGLB at their agencies. These dimensions are consistent with findings from previous studies examining

the sustainability of evidence-based programs in behavioral health organizations [18–20]. A top priority for all leaders in this study was how to pay for PGLB as research funds were discontinued. Multiple funding approaches were identified including using Medicaid to pay for PGLB, restructuring existing contracts with funders to include PGLB services, or seeking new sources of funding for PGLB.

These funding approaches align with financial policies in the Patient Protection and Affordable Care Act (PPACA) and other national healthcare reform programs. For instance, some states are using PPACA funds to develop medical homes for people with SMI in outpatient mental health clinics [21]. These funds can support partnerships with supportive housing agencies to enroll people with SMI in these medical homes, thus providing funding for PGLB. SAMHSA’s Primary and Behavioral Health Care Integration (PBHCI) program is another funding source for PGLB [22]. PBHCI’s goal is to improve the physical health of adults with SMI by developing service infrastructures to support the integration of primary care services in community mental health centers or other behavioral health organizations, including supportive housing agencies. One study site is using a PBHCI grant to support PGLB. Multiple funding sources are needed to sustain interventions like PGLB in supportive housing, and leaders must be creative in how to combine funding from existing healthcare reforms efforts and other programs.

Findings also highlighted how securing funds to sustain PGLB required that organizations engage in a set of strategies aimed at developing a compelling case to funders that PGLB was a worthwhile investment. Program evaluation was identified as essential since this would help generate evidence of PGLB’s impact on addressing clients’ health needs and meeting funders’ priorities. This evidence could be used to develop communication strategies to garner support from key stakeholders (e.g., board of directors) who could advocate for PGLB’s sustainability and activate partnerships with existing or potential funders interested in PGLB. These findings illustrate how funding to sustain an intervention like PGLB requires organizations to use multiple strategies to activate processes in which the benefit of the intervention is examined and communicated, and partnerships with stakeholders and funders are leveraged to increase their commitment to invest in PGLB.

Another key priority identified by leaders was how to develop their organization’s capacity to integrate PGLB into their operations without supports from the research study. A series of inter-related strategies was identified, including restructuring, continuing to support training, supervision, and technical assistance in PGLB and peer-led services from outside purveyors, linking PGLB

to existing policies and practices, and engaging in program evaluation. Each of these strategies required critical administrative and staffing decisions and the engagement and active participation of staff at multiple levels of the organization. Ensuring the link of PGLB with existing practices (e.g., treatment plans) was discussed as critical for developing a more integrated and team-based approach to support PGLB. Evaluation was also important for building internal buy-in for PGLB as it could generate local evidence of the intervention strengths and positive impact on meeting clients' health needs.

Moreover, leaders were aware that sustaining PGLB required ongoing training and technical assistance not only on the intervention, but also on how to deliver and support peer-led services. Despite the growth of the peer specialist workforce in the USA, challenges on how to best recruit, train, supervise, and integrate this workforce into organizations continue to persist [23,24]. These findings are consistent with calls to develop better working environments for peer specialists in behavioral health organizations [24]. In all, the function of strategies to build organizational capacity is to improve the fit between the intervention being sustained and the operations of the agency, thus creating a fertile context for the new intervention to develop stable programmatic roots so that it can grow and prosper within the agency.

Finally, findings showed that interventions tested in research studies cannot remain frozen in time if they are to be sustained in routine practice settings [7]. Leaders talked about how continuing to use an intervention like PGLB requires ongoing refinements to meet the evolving and complex clinical needs of their clients and the changing contexts inside and outside their organizations. This is consistent with the DSF, which stipulates that a constant element in sustainability is change and that continuous refinement of interventions via the use of process and outcome data are critical to maintaining their benefits overtime [7]. In contrast with the findings from the other sustainability dimensions discussed above, participants were less clear about their expertise to make these intervention adaptations. Therefore, leveraging partnerships with intervention experts and developing a more robust evaluation infrastructure within organizations to support these continuous quality improvement efforts were identified as strategies to support the adaptation of PGLB. Given that interventions tested in research studies rarely fit perfectly within routine practice settings, adaptations to the intervention and the context of the organization are needed to support sustainability [13]. Developing organizations' capacity to engage in thoughtful and rigorous intervention refinements using quality improvement methods and existing adaptation frameworks can be

important investments to enhance the sustainability of practice innovations like PGLB.

Several study limitations are noted. First, we interviewed a small sample of leaders, thus their views about how to sustain PGLB may differ from front-line staff. Future work should include a more diverse sample of people within agencies to capture a broader perspective. Second, we conducted our study in three supportive housing agencies participating in a hybrid trial. These agencies are early adopters; thus their experience may not represent the context of other supportive housing agencies. Third, sustainability was examined in the context of transitioning from a research project, thus our findings may be unique to this important transition. Fourth, we examined sustainability for a specific type of intervention, service setting, and population. Finally, we used a cross-sectional approach to examine sustainability decisions. Given the dynamic nature of sustainability, longitudinal methods are needed for future studies.

CONCLUSIONS

Helping organizations close the gap between research and practice is an important priority for reducing health disparities in people with SMI. This study provides initial evidence that can inform future efforts for testing strategies and mechanisms to bridge this gap. Study findings illustrate how leaders in supportive housing agencies planning to sustain PGLB after the end of a hybrid trial prioritized decisions that focused on funding, organizational capacity, and adaptations. To move these decisions into action, leaders should use deliberate strategies (e.g., evaluation and partnerships) to activate a set of mechanisms (e.g., increase fit) to support sustainability. The findings from this study can guide organization leaders in the type of decisions and priorities they need to consider when planning to sustain health interventions to improve the physical health of people with SMI.

SUPPLEMENTARY MATERIAL

Supplementary material is available at *Translational Behavioral Medicine* online.

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Compliance with Ethical Standards

Conflict of Interest: The authors report no conflict of interest.

Primary Data: The findings reported here have not been previously published, nor is the manuscript being simultaneously submitted elsewhere. The authors have full control of all primary data and will agree to allow the journal to review de-identified data if requested.

Authors' Contributions: LJC and AS developed the study aims, collected the data, and led the data analysis and the drafting of the manuscript. LB helped with data collection and assisted with data analyses. DT and CW assisted with data analysis and drafting sections of the manuscript. RLH assisted with interpreting study findings and drafting sections of the manuscript. All authors reviewed and approved the final revisions to the manuscript.

Ethical Approval: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. This study was approved by the Columbia University Institutional Review Board. Not applicable since no animals were involved in this study.

Informed Consent: Informed consent was obtained from all individual participants included in the study.

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